

**FOURTH FIVE-YEAR REVIEW REPORT FOR
CAL WEST METALS SUPERFUND SITE
LEMITAR, SOCORRO COUNTY, NEW MEXICO**

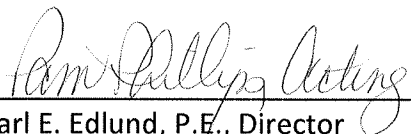


Prepared by

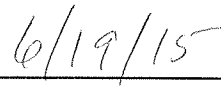
**Superfund Division
U.S. Environmental Protection Agency
Region 6
Dallas, Texas**

DETERMINATION

The completed remedy at the Cal West Metals Superfund Site is protective of human health and the environment. The remedial action is functioning as designed, and the Site has been maintained properly.



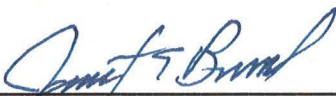
Carl E. Edlund, P.E., Director
Superfund Division
U.S. Environmental Protection Agency, Region 6




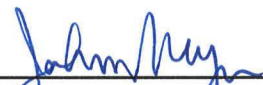
Date


Concurrences

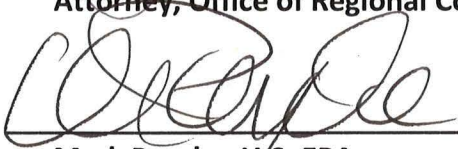
FOURTH FIVE-YEAR REVIEW CAL WEST METALS SUPERFUND SITE EPA ID# NMD097960272

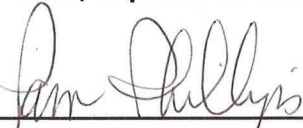
By:  Date: 5/20/2015
Janet Brooks, U.S. EPA
Remedial Project Manager

By:  Date: 5/22/15
Sai Appaji, U.S. EPA
Acting Chief, Louisiana/New Mexico/Oklahoma Section

By:  Date: 6/1/15
John Meyer, U.S. EPA
Acting Associate Director, Remedial Branch

By:  Date: 6/2/15
James E. Costello, U.S. EPA
Attorney, Office of Regional Counsel

By:  Date: 06/03/15
Mark Peycke, U.S. EPA
Chief, Superfund Branch, Office of Regional Counsel

By:  Date: 6/19/15
Pamela Phillips, U.S. EPA
Deputy Director, Superfund Division

Recommendations to Address Current Site Issues

Issues/Recommendations	
OU(s) without Issues/Recommendations Identified in the Five-Year Review:	
OU1 – There were no issues identified during this FYR.	

Table of Contents

Determination	i
Concurrences	ii
Recommendations to Address Current Site Issues.....	iii
Table of Contents.....	iv
List of Tables	iv
List of Appendices	v
List of Acronyms.....	vi
Executive Summary.....	vii
Five-Year Review Summary Form	ix
I. Introduction	1
II. Progress Since Last Review.....	2
Recommendation 1.....	2
Remedy Implementation Activities	3
System Operation/Operation and Maintenance Activities	3
III. Five-Year Review Process	4
Administrative Components	4
Community Notification and Involvement	4
Document Review	4
Data Review	4
Site Inspection.....	5
Interviews	6
IV. Technical Assessment.....	6
Technical Assessment Summary.....	9
V. Issues/Recommendations and follow-up actions	9
VI. Protectiveness statement.....	9
VII. Next review.....	10

List of Tables

Table 1: Protectiveness Determinations/Statements from the Fourth FYR.....	2
Table 2: Status of Recommendations from the 2010 FYR	2
Table 3: Summary of Planned and/or Implemented Institutional Controls (ICs)	3

List of Appendices

Appendix A – Existing Site Information	A-1
Appendix B – Figures and Tables	B-1
Appendix C– Documents Reviewed	C-1
Appendix D– Interviews	D-1
Appendix E– Site Inspection Checklist	E-1
Appendix F– Site Photos	F-1

Appendix B List of Figures

Figure 1: Site Location on Regional Map	B-2
Figure 2: Potentiometric Surface Map (2011) and Historical Trends (2000-2011)	B-3
Figure 3 : Potentiometric Surface Map (2014) and Historical Trends (2005-2014)	B-4
Figure 4 : Polvadera Mutual Domestic Water Consumers Association Municipal Wells	B-5

Appendix B List of Tables

Table B-1: Summary of August 2011 Ground Water Analytical Results for Total and Dissolved Metals	6
Table B-2: Summary of December 2, 2014 Ground Water Analytical Results for Total and Dissolved Metals	9
Table B-3: Historical Ground Water Analytical Data Per Well	12
Table B-4: Well Completion Details and Water Levels	22

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COS	City of Socorro
CRQL	Contract Required Quantitation Limit
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
GPRA	Government Performance and Results Act
ICs	Institutional Controls
µg/dl	Micrograms per deciliter
mg/Kg	Milligrams per kilogram
MCL	Maximum Contaminant Level
MSL	Mean Sea Level
NCP	National Contingency Plan
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PMDWCA	Polvadera Mutual Domestic Water Consumers Association
PAH	Poly Aromatic Hydrocarbon
PQL	Practical Quantitation Limit
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RC	Restrictive Covenant
RCRA	Resource Conservation Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SSC	Superfund State Contract

Executive Summary

This is the fourth Five-Year Review (FYR) for the Cal West Metals Superfund (Site) located in Lemitar, Socorro County, New Mexico. The purpose of this FYR is to review information to determine if the remedy is and will continue to be protective of human health and the environment. The triggering action for this statutory FYR was the signing of the previous FYR on 9/24/2010.

The Site is a former battery breaking and recycling facility located near the town of Lemitar in Socorro County, New Mexico. The Cal West Metals Site was operated from the mid 1970's to the mid 1980's. The Site was called to the U.S. Environmental Protection Agency's (EPA) attention by a citizen's complaint in 1980. On March 31, 1989, EPA added the Site to the National Priorities List (NPL). The EPA issued a Record of Decision (ROD) on September 29, 1992. The ROD, the only decision document for the Site, selected a remedy, establishing remedial action objectives and remediation goals for the Cal West Metals Site.

The selected remedy in the ROD for contaminated soils, sediments, and source waste materials includes: 1) Excavation of approximately 15,000 cubic yards of contaminated soils, sediments, and source waste materials with lead concentrations exceeding the health-based cleanup level of 640 mg/kg; 2) stabilization/solidification of that excavated material with cement; 3) disposal of the treated material in an on-site repository cell capped with concrete and covered with twelve inches of clean site soils; and 3) monitoring of Site ground water using existing wells located downgradient of the repository cell. The contaminants of concern are: lead, antimony, arsenic, cadmium, mercury, nickel, silver, thallium, and polynuclear aromatic hydrocarbons. The expected land uses for the Site and surrounding area are residential and agriculture.

The first FYR was completed in September 2000; the second FYR was completed in September 2005, and the third FYR was completed in September 2010.

Hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure. Through this fourth FYR process, it has been determined that the remedy at the Site is protective of human health and the environment. The remedial action is functioning as designed, and the Site has been maintained properly.

Government Performance and Results Act Measures Review

As part of this FYR, the Government Performance and Results Act Measures have also been reviewed. The measures and their status are as follows:

Environmental Indicators

Human Health: Current Human Exposure Controlled (HEUC)

Groundwater Migration: Groundwater Migration is Under Control (GMUC)

Sitewide Ready for Anticipated Use

Cal West Metals achieved Sitewide Ready for Anticipated Use on June 21, 2006.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Cal West Metals		
EPA ID: NMD097960272		
Region: 6	State: NM	City/County: Lemitar, Socorro
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Janet Brooks		
Author affiliation: EPA		
Review period: 9/24/2010 - 9/24/2015		
Date of site inspection: 12/2/2014		
Type of review: Statutory		
Review number: 4		
Triggering action date: 9/24/2010		
Due date (<i>five years after triggering action date</i>): 9/24/2015		

Five-Year Review Summary Form (continued)

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU1 – There were no issues identified during this FYR.

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU1	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> Because the remedial actions at OU1 (the only OU) are protective, the Site is protective of human health and the environment.	

Sitewide Protectiveness Statement
<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> Because the remedial actions at OU1 (the only OU) are protective, the Site is protective of human health and the environment.

I. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The EPA prepares FYRs pursuant to CERCLA Section 121, 42 U.S.C. § 9621, and the National Contingency Plan (NCP). CERCLA 121 states:

“If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.”

EPA interpreted this requirement further in the NCP; 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

“If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action.”

EPA conducted a FYR on the remedy implemented at the Cal West Metals Superfund Site in Lemitar, Socorro County, New Mexico. EPA is the lead agency for developing and implementing the remedy for the Site. The New Mexico Environment Department, as the support agency representing the State of New Mexico, has reviewed all supporting documentation and provided input to EPA during the FYR process.

This is the fourth FYR for the Cal West Metals Superfund Site. The triggering action for this statutory review is the completion date of the previous FYR. The FYR is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure. The Site consists of one Operable Unit, all of which is addressed in this FYR.

The Protectiveness Determination/Statements from this fourth FYR are presented in Table 1. Table 2 presents the Status of Recommendations from the 2010 Third FYR.

II. Progress Since Last Review

Table 1: Protectiveness Determinations/Statements from the 2010 FYR

OU #	Protectiveness Determination	Protectiveness Statement
01	Short-term Protective	Protectiveness Statement(s) [2010]: The results of this [2010] five-year review indicate that the remedial action at the Site is protective of human health and the environment in the short term. Although sampling from the second five year review conducted in 2005 has indicated that the levels of antimony, beryllium, and thallium are within federal SDWA standards, additional sampling will need to be conducted within the next twelve months with the appropriate CRQL to ensure the site remains protective in the long term, the remedial action is functioning as designed, and the Site has been maintained properly.

Table 2: Status of Recommendations from the 2010 FYR

OU #	Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Party	Original Milestone Date	Current Status	Completion Date
01	The quantitation limits being used on the analytes antimony, beryllium, and thallium exceed the maximum contaminant level (MCL) established under the Safe Drinking Water Act. This prevents certain detection of some contaminant concentrations that may exceed MCLs.	Request a Contract Required Quantitation Limit (CRQL) from the laboratory that is lower than the MCL	State	State	9/30/2011	Completed	8/9/2011
01	Restrictive Covenant (RC) had incorrect cross reference numbers to warranty deeds.	Insert correct reference number in RC	State	State	9/30/2011	Completed	6/30/2010

Recommendation 1

A recommendation from the 2010 3rd FYR was to resample Site monitor wells for the analysis of selenium, beryllium, and antimony using lower CRQLs with detection limits below or near the MCL. Site monitor wells were resampled for total and dissolved metals on August 9, 2011. Aluminum concentrations in monitor wells CWMW-8 and CWMW-9 exceeded the secondary federal standards for total metals with reported concentrations of 0.063 mg/L and 0.18 mg/L, respectively. There were no

other concentrations reported for total or dissolved metals that exceed New Mexico Water Quality Control Commission (NMWQCC) human health standards or federal standards. Sample results for total thallium are reported as not detected at the reporting limit in the samples collected. However, the samples for total metals were diluted 2.5 times and the Practical Quantitation Limit (PQL) for thallium is reported as 0.0025 mg/L. The MCL for thallium is 0.002 mg/L; therefore it could not be determined that the EPA MCL had not been exceeded. Therefore, an additional sample event was scheduled to meet the lower detection limits. The PQL for all samples collected in December 2, 2014 was less than 0.0010 mg/l; well below the EPA MCL of 0.002 mg/l; showing that all of the ground water samples are below the drinking water standards. The data are summarized in Appendix B - Table B-1 and Table B-2.

Remedy Implementation Activities

There were no remedies implemented during this fourth FYR period because the remedial action is complete.

Table 3: Summary of Planned and/or Implemented Institutional Controls (ICs)

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date
Repository Cell	Yes	No	Repository Cell	Notice not to disturb the repository cell	Restrictive Covenant Implemented on October 5, 2005

System Operation/Operation and Maintenance Activities

Current Operation and Maintenance at the Site consist of ground water sample collection and analysis once per FYR year period. Ground water sample collection for this fourth FYR period was conducted on December 2, 2014. Results from this sampling event are discussed in the Data Review Section below.

III. Five-Year Review Process

Administrative Components

The Cal West Metals Superfund Site FYR was led by Remedial Project Manager (RPM) Janet Brooks of the EPA, RPM for the Site and Stephen Harper, the Community Involvement Coordinator (CIC). Support agency representatives, Sabino Rivera and Mark Garman, of the NMED, assisted in the review as the representatives for the support agency.

The review, which began on 12/2/2014, consisted of the following components:

- Community Involvement;
- Document Review;
- Data Review;
- Site Inspection; and
- Five-Year Review Report Development and Review.

Community Notification and Involvement

The EPA Region 6 issued a press release dated December 2, 2014 announcing that FYR would be conducted at 22 sites across the region. The press release included the Cal West Metals Superfund Site as one of the 22 sites. A notice was published in the local newspaper, the *El Defensor Chieftan*, on 12/18/2014, stating that there was a five-year review. The results of the review and the report will be made available at the Site information repository located at Socorro Public Library, 401 Park Street, Socorro, New Mexico 87801.

NMED notified the property owner that a FYR was being conducted and requested site access to sample site monitor wells and to conduct a site inspection.

Document Review

This five-year review consisted of a review of relevant documents including O&M records and monitoring data. Applicable ground water and soil cleanup standards, as listed in the September 1992 Record of Decision (ROD), were also reviewed.

Data Review

Site data generated and reviewed during this fourth FYR period were ground water levels and analytical results for ground water samples collected from Site monitoring wells. Ground water analytical results generated as a result of the recommendation from the third FYR were discussed in a previous section of this FYR report. The contaminants of concern for the Site identified in the ROD are

lead, antimony, arsenic, cadmium, mercury, nickel, silver, thallium, and Poly Aromatic Hydrocarbons (PAH). The Site location is shown on Figure 1 in Appendix B.

Ground water elevation data was collected on August 9, 2011 and December 2, 2014. The ground water gradient is nearly flat (0.0008 feet/foot) to the south/southwest. Ground water elevation data collected during this FYR period indicates that ground water levels remain consistent with previous measurements. Appendix B - Figure 2 and Appendix B - Figure 3 show the potentiometric surface map, historical ground water elevation trends over time, and monitoring well locations. Table B-3 shows historical ground water elevation data.

Ground water samples for the fourth FYR were collected from four monitor wells on December 2, 2014. Summit Environmental Technologies, Inc. from Albuquerque, New Mexico analyzed the ground water samples for total and dissolved metals using EPA Method 200.7 and Method 200.8. Total and dissolved mercury was analyzed using EPA Method 345.1. Arsenic was detected in four monitor wells and nickel was detected in three monitor wells. However, neither of the compounds exceed NMWQCC human health standards or federal standards. Analytical results for the December 2, 2014 sampling event are summarized in Table B-2.

Historical ground water monitoring concentrations are summarized in Table B-3.

Site Inspection

The inspection of the Site was conducted on December 2, 2014. In attendance were RPM Janet Brooks, EPA, and Sabino Rivera of the NMED. The purpose of the inspection was to assess the protectiveness of the remedy. Mr. Shane Durkin, who leased the site from the City of Socorro during the prior Third Five Year Review, has since purchased the property from the City of Socorro.

Monitor wells CWMW-7, CWMW-8, CWMW-9, and CWMW-10 were inspected for condition. Well vaults were secured with padlocks. Bollards and concrete were in good condition. Monitor well CWMW-8 bollards were painted by the property owner. The dedicated bailer that had fallen down monitor well CWMW-8 was retrieved during the August 9, 2011 sampling event.

Approximately 240 feet of barbed wire fence near the main entrance (southeast corner) had been replaced with a metal pipe fence. The barbed wire fence on the south portion of the property was replaced with a railroad tie fence. The entrance to the Site is limited to a metal gate located at the southeast corner. The metal gate is closed and locked when the business is closed. The fence around the perimeter of the property was in good condition.

The property owner planted several fruit trees on the north perimeter of the property and to the east of the repository cell boundary. There were some rose bushes planted on the east side of the former cotton gin. Vegetation was dormant due to the winter season but the remaining vegetation on the repository cell appeared to be consistent with the surrounding vegetation.

There was no evidence of ponding on the repository cell. Signs marking the repository cell boundary

were visible and secure. There was no indication of animals burrowing in the area of the repository cell.

In 2012, the current property owner requested permission from NMED to park equipment on the repository cell. The NMED responded with a letter that it was permissible to park equipment on the repository cell; however, the NMED letter also said that the owner should keep automotive type fluids away from the repository cell. There were 21 55-gallon drums located approximately 80 feet east of the southeast corner of the repository cell. The drums appeared to contain waste oil. Soil staining was noted near some of the drums. Approximately 18 of the drums were resting on wooden pallets and three drums were resting directly on the ground surface. Soil staining was also noted near a parked vehicle. The property owner was contacted regarding the soil staining. The property owner stated that, subsequent to EPA's Site visit, the stained soil had been excavated and disposed of at a landfill. NMED provided the property owner a link to the EPA website: *Managing Used Oil: Advice for Small Business*.

Interviews

During the FYR process, interviews were conducted in the form of questionnaires, which were distributed to parties impacted by the Site. These parties included the current landowner, regulatory agencies involved in Site activities and regulatory agencies that were aware of the Site. The purpose of the interviews was to document any perceived problems or successes with the completed remedy. Interviews are summarized below and complete interviews are included in Appendix B.

Mr. Jay Santillanes, City of Socorro (COS) Utilities Director, was emailed a questionnaire and Mr. Santillanes responded on February 5, 2015. Mr. Santillanes stated that the Site was adequately cleaned up and the contaminated area capped, which improved the area. Mr. Santillanes stated that COS employees visit or drive by the Site frequently. He said that he did not have any changes to the Site to report.

Mr. Pat Salome, COS City Clerk, was emailed a questionnaire and Mr. Salome responded on March 5, 2015. Mr. Salome stated that the project was practical in addressing the issue. Mr. Salome also stated that COS, through its representative, has regular communication with the individual occupying the project area. COS employees visually inspect the area to ensure that the integrity of the Site is maintained.

Mr. Shayne Durkin, Site property owner, was emailed an interview questionnaire on February 9, 2015. Mr. Durkin stated that there has been vandalism on the Site property. Mr. Durkin also stated that people see the Site as a functioning part of the community now instead of an environmental hazard.

IV. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Completed Remedial Actions		Yes/No/NA	Performance Data Collected Since Last 5YR?	Performance Issues Identified Since Last 5YR?
Remedial Action Performance	Whether the remedial action continues to operate and function as designed	Yes	No	No
	Whether remedy is achieving progress towards restoration goals?	Yes	No	No
	Whether containment is effective	Yes	Yes	No
System Operations/O&M	Whether operating procedures, as implemented, will maintain the effectiveness of remedy	Yes	No	No
	Whether large variances in O&M costs could indicate a potential remedy problem	No	No	No
Monitoring Activities	Whether periodic monitoring activities are being conducted?	Yes	Yes	No
	Are monitoring activities adequate to determine remedy effectiveness and protectiveness?	Yes	No	No
Opportunities for Optimization	Whether opportunities exist to improve the performance and/or reduce costs of monitoring, sampling, and treatment systems	No	No	No
Early Indicators of Potential Issues	Whether frequent equipment breakdowns or changes indicate a potential protectiveness-affecting issue	No	No	No
Implementation of Institutional Controls and Other Measures	Are access controls (e.g., fencing and warning signs) in place?	Yes	No	No
	Are access controls effective in preventing exposure?	Yes	No	No
	Are ICs in place?	Yes	No	No

Completed Remedial Actions		Yes/No/NA	Performance Data Collected Since Last 5YR?	Performance Issues Identified Since Last 5YR?
	Are ICs effective in preventing exposure?	Yes	No	No

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy section still valid?

Completed Remedial Actions		Yes/No	Does This Affect Remedy Protectiveness?
Changes in Standards and TBCs	Whether standards identified in the ROD have been revised since the last FYR	No	No
	Whether TBCs used in selecting cleanup levels have changed since the last FYR	No	No
Changes in Exposure Pathways	Whether land use or expected land use has changed since the last FYR	No	No
	Whether human health route of exposure has changed since the last FYR	No	No
	Whether human health receptors have changed since the last FYR	No	No
	Whether ecological route of exposure has changed since the last FYR	No	No
	Whether ecological receptors have changed since the last FYR	No	No
	Are there newly identified contaminants since the last FYR	No	No
	Are there newly identified contaminant source areas since the last FYR	No	No
	Are there unanticipated toxic byproducts of the remedy since the last FYR	No	No
	Whether physical site conditions have changed since the last FYR	No	No
Changes in Toxicity and Other Contaminant Characteristics	Whether toxicity factors for contaminants of concern at the site have changed in a way that could affect remedy protectiveness since the last FYR	No	No
	Whether the contaminant characteristics have changed in a way that could affect remedy protectiveness since the last FYR	No	No

Changes in Risk Assessment Methods	Whether the risk assessment methodologies have changed in a way that could affect the remedy protectiveness since the last FYR	No	No
Review of RAOs	Whether new or changed site conditions impact the RAOs and remedy protectiveness	No	No

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Completed Remedial Actions		Yes/No	Does This Affect Remedy Protectiveness?
Other Information	Whether newly identified ecological risks have been found	No	No
	Whether there are impacts from natural disasters	No	No
	Whether any other potential site changes were identified during the five-year review process	No	No

Technical Assessment Summary

The remedy at the Site is functioning as designed and is expected to continue to be protective of human health and the environment.

V. Issues/Recommendations and follow-up actions

There were no issues/recommendations and follow-up actions.

VI. Protectiveness statement

Protectiveness Statement(s)	
<i>Operable Unit:</i> OU1	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> Because the remedial actions at OU1 (the only OU) are protective, the Site is protective of human health and the environment.	
Sitewide Protectiveness Statement	

<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> Because the remedial actions at OU1 (the only OU) are protective, the Site is protective of human health and the environment.

VII. Next review

The next five-year review report for the Cal West Metals Superfund Site is required five years from the completion date of this review.

Appendix A – Existing Site Information

A. SITE CHRONOLOGY

Table 5: Site Chronology

Event	Date
Initial discovery of problem or contamination	7/01/81
Final NPL listing	3/31/89
Remedial Investigation/Feasibility Study complete	9/29/92
ROD signature	9/29/92
Remedial design start	9/29/92
Remedial design complete	9/29/93
Superfund State Contract, Cooperative Agreement, or Federal Facility Agreement signature	9/24/93
On-site remedial action construction start	5/94
RA Construction completion	4/95
Deletion from NPL (if applicable)	12/96
First five-year review	9/25/00
Second five year review	9/19/05
Third five year review	9/24/10
Fourth five year review ground water sampling	12/2/14

B. BACKGROUND

Physical Characteristics

The Site is a former battery breaking and recycling facility located one-half mile north of the town of Lemitar in Socorro County, New Mexico. The Site is located approximately eight miles north of Socorro, New Mexico as shown in Appendix B - Figure 1. The Site is bounded on the east by a frontage road for US Interstate 25. The Site is approximately 43.8 acres of which 12.5 acres are fenced. Former Site operations were located within the fenced area. The Site is also the location of a former cotton gin facility. Aerial photographs indicate that the cotton gin was active at least between 1961 and 1972. The Rio Grande is located approximately two miles east of the Site. The Site is located at an elevation of approximately 4,700 feet above mean sea level (MSL) within the northwest quadrant of the southwest quadrant of Section 2, Township 2 South, Range 1 West. Lemitar, New Mexico has a population of 330 people. Land use in the area is predominately residential. Three households are located approximately 1,100 feet south of the Site.

Hydrology

The Site is located within the Socorro Basin portion of the Rio Grande Rift, a major structural depression which extends from central Colorado to northern Mexico. The Site is situated on the northwest margin of the Socorro Basin which slopes eastward from the Lemitar Mountains to the Rio Grande floodplain. A buried high angle reverse fault trends north-south along the Lemitar Mountains

approximately one mile east of the Site.

The upper shallow aquifer is composed of the Pliocene Sierra Ladrones Formation and Quaternary deposits. The Sierra Ladrones aquifer is the most important source of ground water in the region. Sierra Ladrones deposits are composed of fine to coarse-grained sandstones and pebble conglomerate interfingering with beds of mud, silt, and sand. The Quaternary deposits consist primarily of conglomerates and sandstones. The thickness and extent of the shallow aquifer is estimated to be greater than 1,000 feet thick in the Socorro Basin. No wells in the Socorro Basin are known to be completed in zones deeper than the shallow aquifer (RI/FS report). The depth to ground water at the Site ranges from 82.78 to 101.57 feet below ground surface. Ground water contours for August 2011 and December 2014 are shown in Appendix B - Figure 2 and Appendix B - Figure 3. The 2011 and 2014 contours indicate a south-southwesterly ground water flow direction with a gradient of 0.000722 feet/foot and 0.000605 feet/foot, respectively.

Land and Resource Use

The Site operated as a battery breaking and recycling facility. From 1979 to 1981, the facility processed an estimated 20,000 automobile batteries to recover lead, plastics, and hard rubber components for commercial sale. Most of the soil contamination at the Site was found at the ground surface level (depth of six inches or less). No release to ground water of contaminants from the Site has occurred.

The Site property was formerly owned by the COS and is now owned by Mr. Shayne Durkin. Durkin Diesel operates out of the Site and currently repairs diesel engines out of the main facility building located near the southeast entrance.

Ground water from the upper shallow aquifer of the Sierra Ladrones Formation is used by the Polvadera Mutual Domestic Water Consumers Association (PMDWCA). The PMDWCA has 722 service connections and serves a population of 1,700 and also provides all water to the site occupants. There are five drinking municipal water wells of which four wells are active. PMDWCA municipal Well # 3 is located approximately 0.8 miles south/southwest from the Cal West Metals site. See Appendix B Figure 4 for the location of the active PMDWCA municipal wells in relationship to the Site.

History of Contamination

During operations as a battery breaking and recycling facility, an estimated 20,000 automobile batteries were processed to recover lead, plastics, and hard rubber components for commercial sale. Lead-acid batteries were crushed on-site and the batteries were separated into plastics, hard rubber, and lead oxides. Flotation and centrifugation in a rotating separator drum separated the plastics, hard rubber, and lead fraction. Water was recycled through the separator drum and ultimately discharged to the lined pond along with waste sludge. After the discharge line became plugged, sludge was disposed of on the concrete surface pad adjacent to the cotton gin building.

Piles of crushed battery components, in various stages of separation, were stored outdoors from the start of operation until approximately 1989. The broken battery piles were stored inside the cotton gin

(central building) and stockpiled on the concrete pad adjacent (west) of this building.

Initial Response

The Site has been the subject of numerous Federal and NMED investigations and regulatory actions since 1979. From 1979 to 1985, the NMED and its predecessor agency conducted investigations to assess air and ground water quality. Preliminary investigations were conducted by the NMED, the EPA, and the LaPoints from 1981 through 1989. The LaPoints were the owner/operators of the battery recycling facility. The NMED conducted a Site Inspection during August 1985 to characterize on-site wastes. This investigation identified concentration levels of lead that exceeded screening levels established by EPA for lead in soil and sediment. Based on site investigations conducted by EPA and NMED, the Site was proposed for inclusion on the CERCLA NPL on June 24, 1988, and officially listed on March 31, 1989.

Basis for Taking Action

Lead, antimony, arsenic, cadmium, mercury, nickel, silver, and thallium were the primary contaminants found in the battery and sludge sediment piles, site soil, and evaporation pond sediment samples collected during the RI. Lead, the major contaminant of concern was found in concentrations as high as 537,000 ppm in the broken battery pile and 836,000 ppm in the waste sediment sludge.

Ground water samples collected during the RI from monitor wells and residential wells did not indicate a release of hazardous substances, pollutants, or contaminants associated with the Site to ground water. Additionally, depth samples collected at the two evaporation ponds and adjacent to the sludge waste sediments (concrete pad) did not indicate that lead or other hazardous substances, pollutants, or contaminants had migrated beyond the surface soil (6 inches below ground surface).

C. REMEDIAL ACTIONS

Remedy Selection

The ROD for the Site was signed on September 29, 1992 and has not been amended. The requirements as stated in the ROD for the Site are:

- Excavation of approximately 15,000 cubic yards of contaminated soils, sediments, and source waste materials with lead concentrations exceeding the health-based cleanup level of 640 mg/kg;
- Stabilization/solidification of that excavated material with cement; 3) disposal of the treated material in an on-site repository cell capped with concrete and covered with twelve inches of clean site soils;
- Annual sampling of four existing monitoring wells within the disposal area for five years after remedial work completion, followed by ground water sampling every five years for twenty-five years (until the year 2025).

- Soil remediation goals were established such that soil concentrations of the following contaminants of concern would not exceed the concentrations listed below:
 - Lead: 640 parts lead per million parts (ppm)
 - Antimony: 110 ppm
 - Arsenic: .37 ppm
 - Cadmium: 140 ppm
 - Mercury: 82 ppm
 - Poly Aromatic Hydrocarbons: 3 ppm benzo(a)pyrene equivalents

Remedy Implementation

The remedial design for the Site was started on May 10, 1994 and completed in April 1995. Contaminated material was mixed with cement and water and was then deposited in an on-site repository cell. A total of 49,723 tons of material were treated to include: 1,028 tons of battery parts, 212 tons of sediment, and 48,483 tons of contaminated soil. The repository cell was covered with a three (3) inch thick concrete cap. The concrete cap had an average compressive strength of 4,317 pounds per square inch. The disposal area was covered with a minimum of 12 inches of clean soils.

System Operation/Operation and Maintenance

Operation and Maintenance (O&M) activities are performed to protect the integrity of the remedy at the Site. Pursuant to 40 CFR § 300.510(c)(1), the New Mexico Environmental Department (NMED) has assumed all responsibility for O&M at the Site. In accordance with the Superfund State Contract (SSC), one year after the completion of the remedy, NMED began sampling four ground water monitoring wells annually from 1996 through 2000, followed by ground water sampling every five years for 25 years (until the year 2025).

The estimated annual O&M costs in the ROD were \$5,000. NMED expended \$3,400 in FY12. There were no other costs incurred during this reporting period.

Appendix B – Figures and Tables

Figure 1: Site Location on Regional Map
Cal West Metals Superfund Site

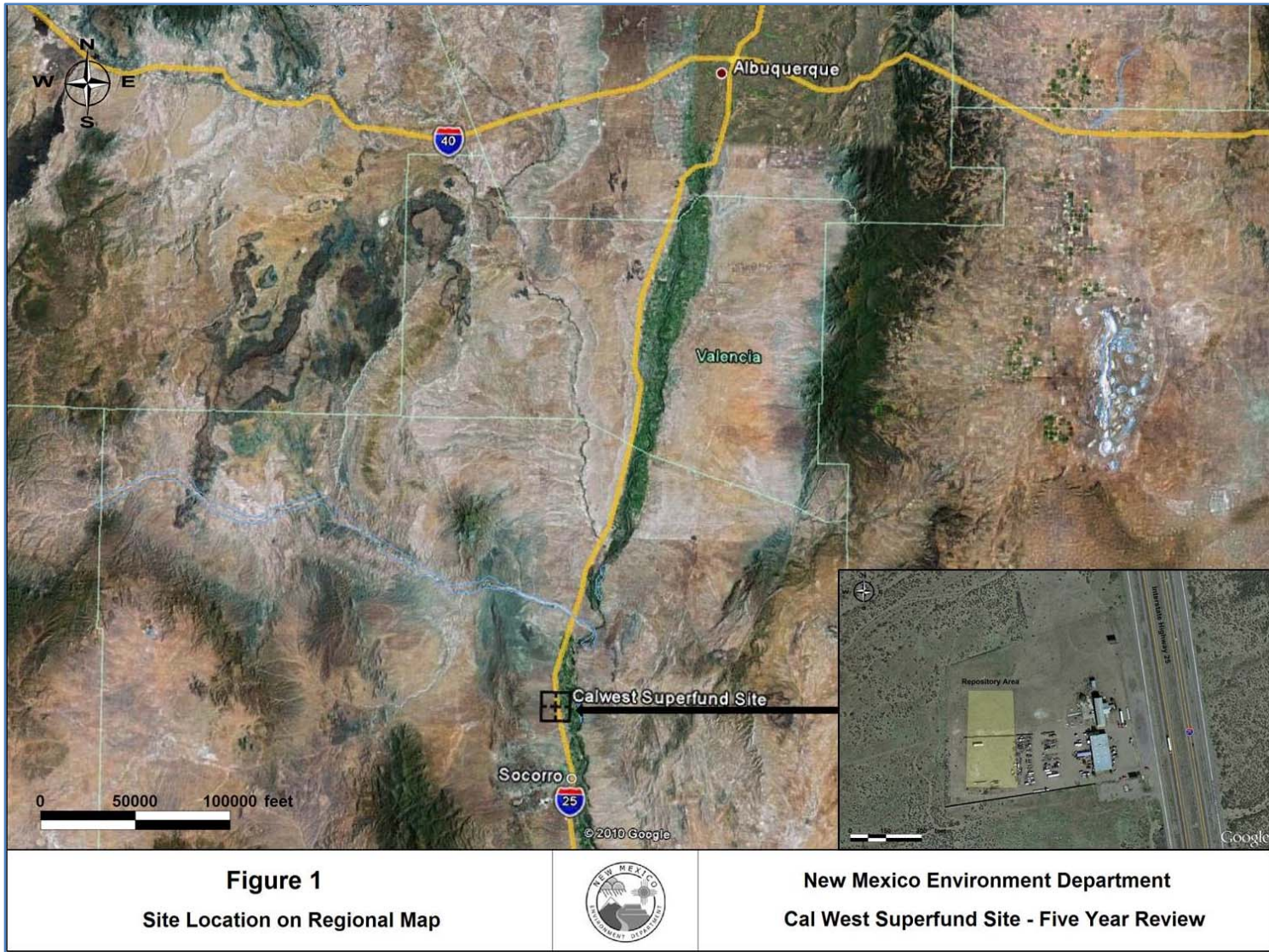


Figure 2: Potentiometric Surface Map (2011) and Historical Trends (2000-2011)
Cal West Metals Superfund Site

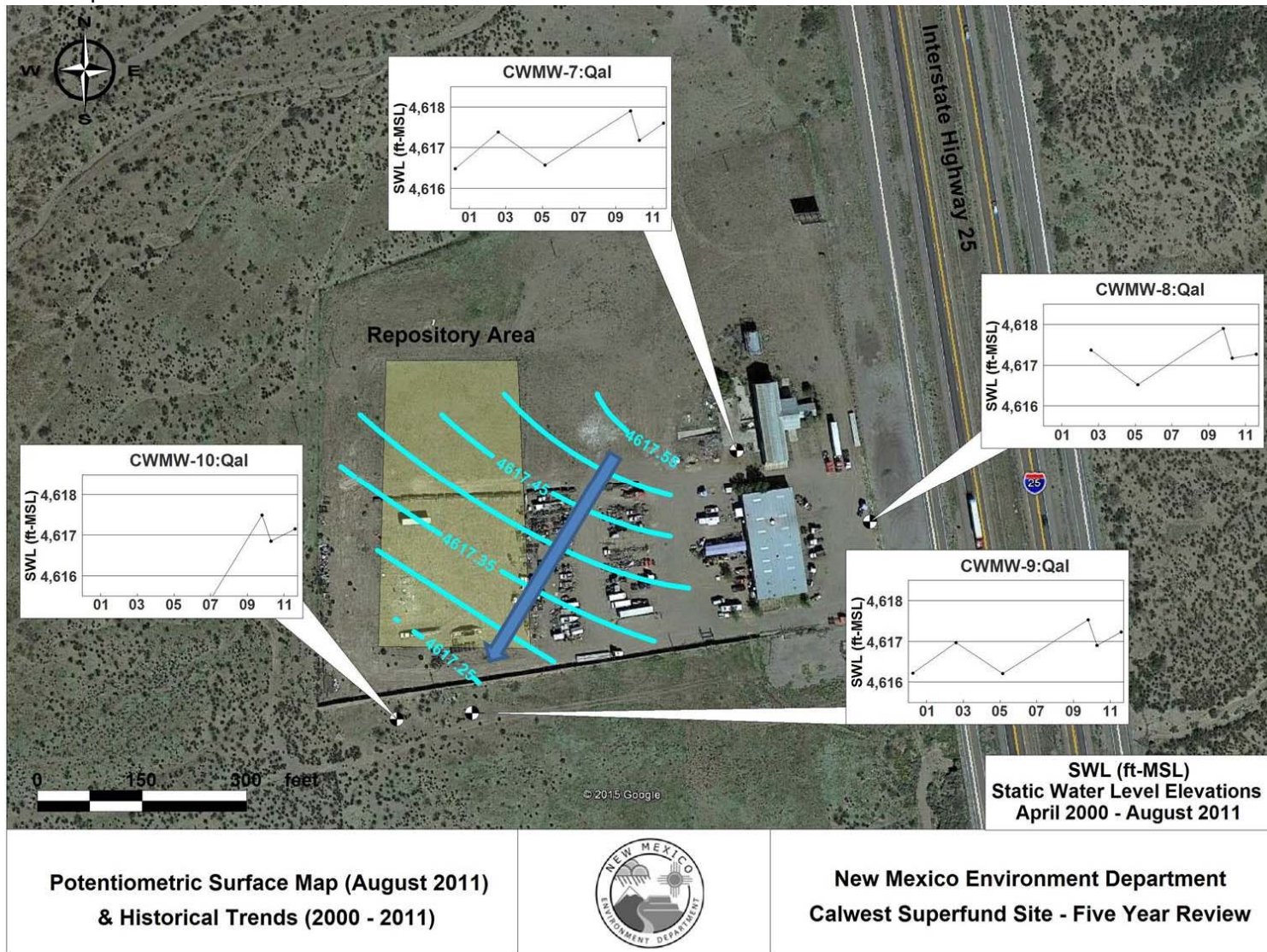


Figure 3 : Potentiometric Surface Map (2014) and Historical Trends (2005-2014)
Cal West Metals Superfund Site

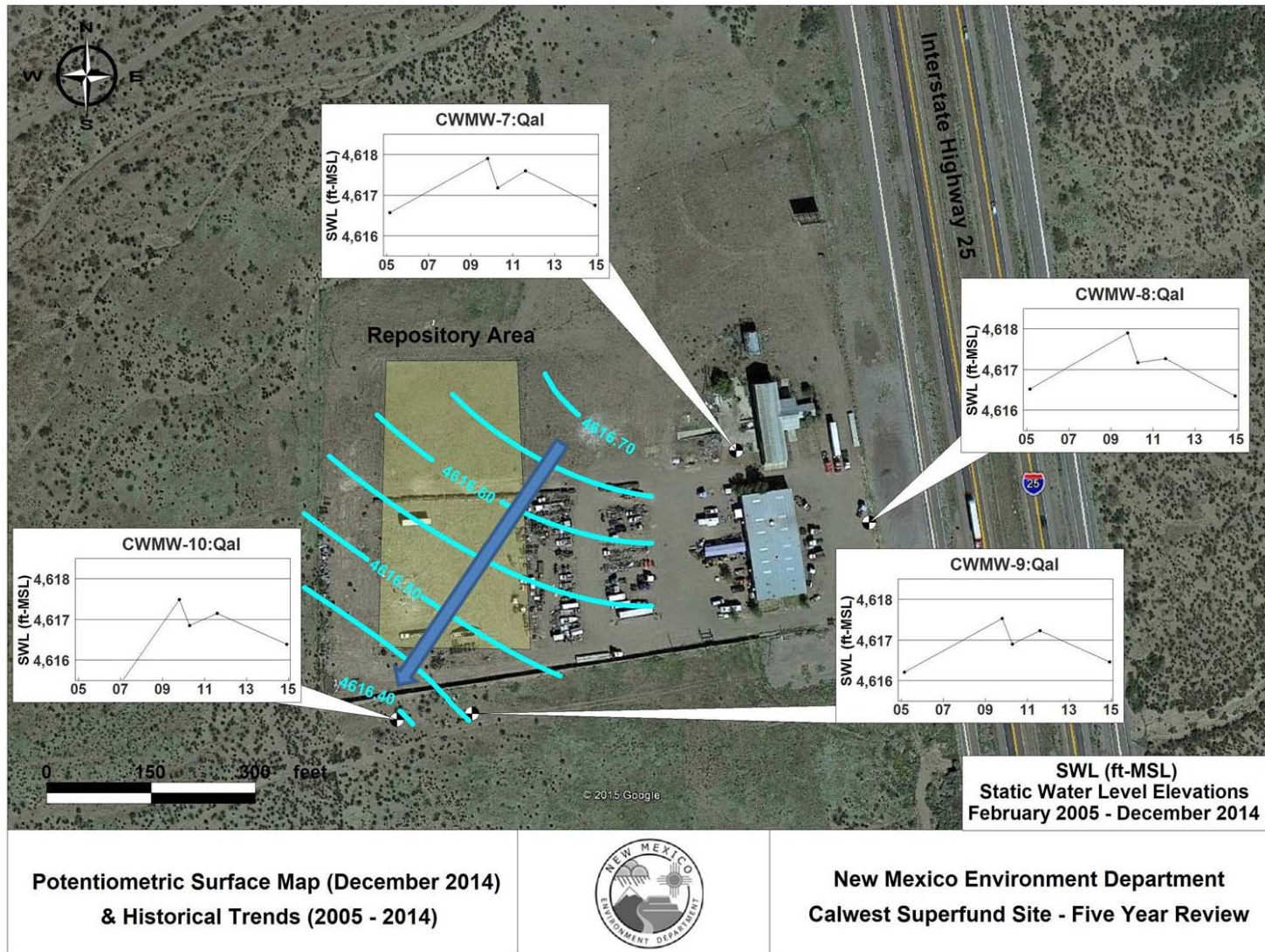
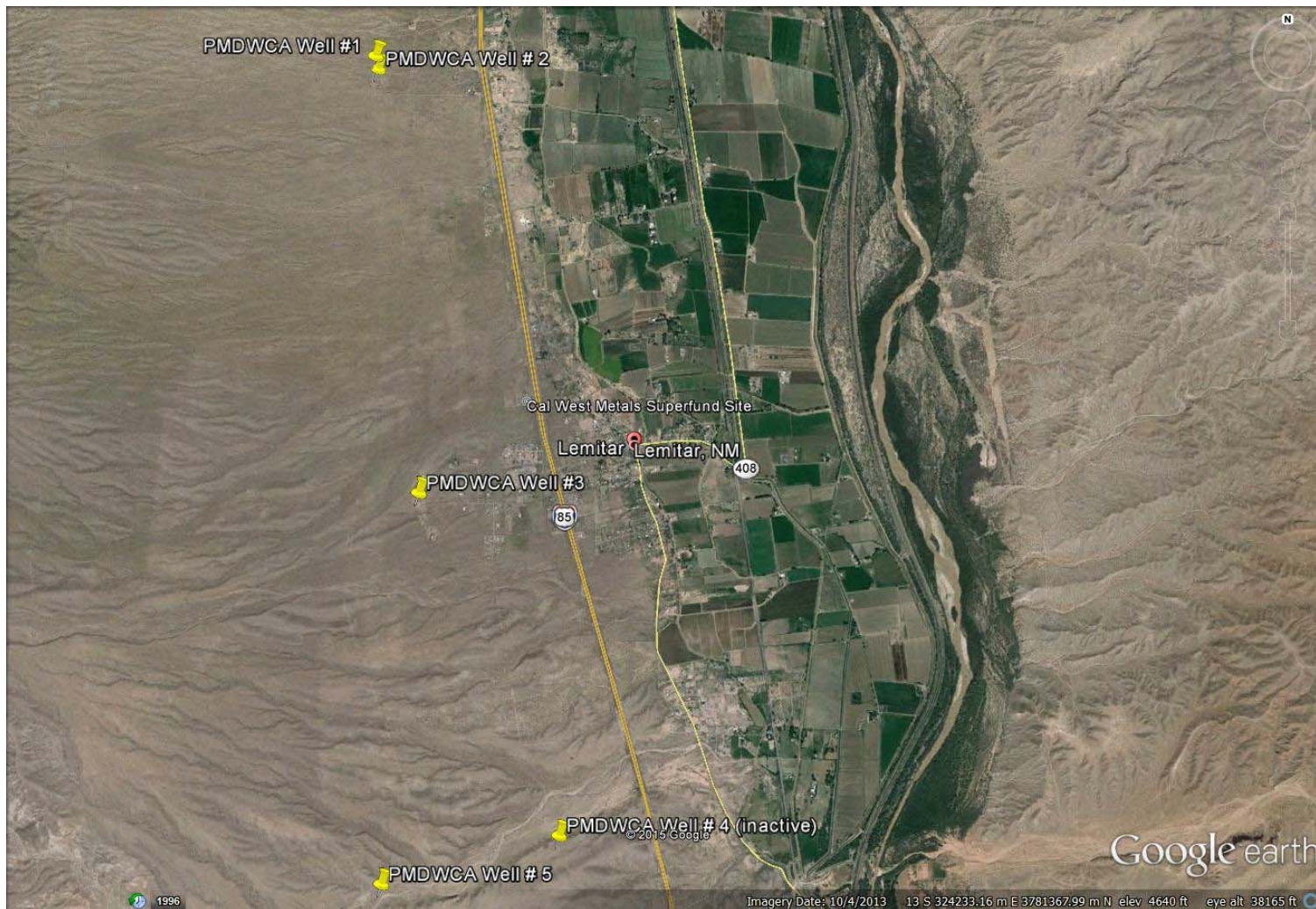


Figure 4 : Polvadera Mutual Domestic Water Consumers Association Municipal Wells



**Table B-1: Summary of August 2011 Ground Water Analytical Results for Total and Dissolved Metals
Cal West Metals Superfund Site (results in milligrams per liter)**

Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-10	CWMW-109
Dissolved Metals:								
Aluminum	5.0	0.05-0.2(s)	200.7	<0.020	<0.020	<0.020	<0.020	<0.020
Antimony		0.006	200.8	0.00020 J	0.00022 J	0.00022 J	0.00027 J	0.00027 J
Arsenic	0.1	0.01	200.8	0.0068	0.0073	0.0075	0.0095	0.0093
Barium	1.0	2.0	200.7	0.023	0.041	0.053	0.055	0.054
Beryllium		0.004	200.7	0.00046 J	0.00047 J	0.00032 J	0.00033 J	0.00027 J
Boron	0.75(i)							
Cadmium	0.01	0.005	200.7	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Calcium			200.7	220	240	140	140	130
Chromium	0.05	0.1	200.7	<0.0060	<0.0060	0.0012 J	0.00047 J	0.00093 J
Cobalt	0.05		200.7	0.0018 J	0.0018 J	0.0014 J	0.0012 J	0.0013 J
Copper		1.3	200.7	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
Iron	1.0	0.3(s)	200.7	<0.020	<0.020	<0.020	<0.020	<0.020
Lead	0.05	0.015	200.8	0.000041 J	0.00013 J	<0.0010	0.000038 J	0.000033 J
Magnesium			200.7	37	35	24	24	23
Manganese	0.2	0.05(s)	200.7	0.00014 J	0.0012 J	0.00025 J	0.0045	0.0048
Mercury	0.002	0.002						
Molybdenum	1.0(i)							
Nickel	0.2(i)	0.1	200.7	<0.010	<0.010	<0.010	<0.010	<0.010
Potassium			200.7	3.8	6.0	5.7	5.3	5.4
Selenium	0.05	0.05	200.8	0.016	0.035	0.0081	0.010	0.0096
Silicon								
Silver	0.05	0.05(s)	200.7	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Sodium			200.7	150	150	99	100	100
Strontium								

**Table B-1: Summary of August 2011 Ground Water Analytical Results for Total and Dissolved Metals
Cal West Metals Superfund Site (results in milligrams per liter)**

Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-10	CWMW-109
Thallium		0.002	200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tin								
Uranium								
Vanadium			200.7	0.0071 J	0.0061 J	0.0080 J	0.0079 J	0.0076
Zinc	10.0	5(s)	200.7	0.015	0.0091 J	0.01	0.014	0.012
Total Metals:								
Aluminum	5.0	0.05-0.2(s)	200.7	0.015 J	0.063	0.18	0.027	0.033
Antimony		0.006	200.8	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Arsenic	0.1	0.01	200.8	0.0060	0.0065	0.0070	0.0093	0.0095
Barium	1.0	2.0	200.7	0.026	0.045	0.076	0.059	0.062
Beryllium		0.004	200.7	0.00018 J	0.00022 J	<0.0020	<0.0020	<0.0020
Boron	0.75(i)							
Cadmium	0.01	0.005	200.7	<0.00015	<0.0020	<0.0020	<0.0020	<0.0020
Calcium			200.7	220	240	130	130	140
Chromium	0.05	0.1	200.7	0.00059 J	0.0019 J	0.0028 J	0.0017 J	0.0019 J
Cobalt	0.05		200.7	0.0014 J	0.0013 J	0.0014 J	0.00087 J	0.00066 J
Copper		1.3	200.7	<0.0060	<0.0060	0.0011 J	0.00087 J	0.0014 J
Iron	1.0	0.3(s)	200.7	0.027	0.073	0.20	0.037	0.046
Lead	0.05	0.015	200.8	<0.0025	0.00065 J	0.00033 J	<0.0025	<0.0025
Magnesium			200.7	37	34	24	23	23
Manganese	0.2	0.05(s)	200.7	0.001	0.0037	0.0040	0.0057	0.0060
Mercury	0.002	0.002	245.1	0.000037 J	0.000040 J	0.000038 J	0.000040 J	0.000042 J
Molybdenum	1.0(i)							
Nickel	0.2(i)	0.1	200.7	<0.010	<0.010	<0.010	<0.010	<0.010
Potassium			200.7	3.8	5.8	5.6	5.2	5.3
Selenium	0.05	0.05	200.8	0.013	0.029	0.0069	0.0087	0.0089

Table B-1: Summary of August 2011 Ground Water Analytical Results for Total and Dissolved Metals Cal West Metals Superfund Site (results in milligrams per liter)								
Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-10	CWMW-109
Silicon								
Silver	0.05	0.05(s)	200.7	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Sodium			200.7	150	150	97	100	100
Strontium								
Thallium		0.002	200.8	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Tin								
Uranium								
Vanadium			200.7	0.0049 J	0.0044 J	0.0064 J	0.0061	0.0063 J
Zinc	10.0	5(s)	200.7	0.0045 J	0.0032 J	0.0084 J	<0.010	0.00092 J

Notes:

CWMW-109 is a duplicate sample of CWMW-10

i= irrigation standard

s=secondary standard

EPA MCL=Environmental Protection Agency maximum contaminant level

J=Analyte detected below practical quantitation limits

WQCC Standard=New Mexico Water Quality Control Commission Standard

**Table B-2: Summary of December 2, 2014 Ground Water Analytical Results for Total and Dissolved Metals
Cal West Metals Superfund Site (results in milligrams per liter)**

Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-99	CWMW-10	R-1
Dissolved Metals:									
Aluminum	5.0	0.05-0.2(s)	EPA200.7	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony		0.006	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.1	0.01	EPA200.8	0.0065	0.0069	0.0072	0.0071	0.0095	<0.0030
Barium	1.0	2.0	EPA200.8	0.020	0.032	0.045	0.044	0.042	<0.0010
Beryllium		0.004	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	0.75(i)		EPA200.7	0.20	0.25	0.14	0.14	0.12	<0.050
Cadmium	0.01	0.005	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium			EPA200.7	200	180	69	72	70	0.16
Chromium	0.05	0.1	EPA200.8	0.0015	<0.0010	0.0014	0.0018	<0.0010	<0.0010
Cobalt	0.05		EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper		1.0	EPA200.7	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Iron	1.0	0.3(s)	EPA200.7	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Lead	0.05	0.015	EPA200.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Magnesium			EPA200.7	25	22	16	17	16	<0.050
Manganese	0.2	0.05(s)	EPA200.8	<0.0020	<0.0020	0.0023	0.0022	0.0046	<0.0020
Mercury	0.002	0.002	EPA245.1	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	1.0(i)		EPA200.8	0.0010	0.0015	0.0017	0.0016	0.0015	<0.0010
Nickel	0.2(i)	0.1	EPA200.8	0.0014	<0.0010	0.0034	0.0032	0.0012	<0.0010
Potassium			EPA200.7	5.2	6.9	8.0	7.5	6.9	<0.50
Selenium	0.05	0.05	EPA200.8	0.015	0.027	0.0079	0.0079	0.0085	<0.0050
Silver	0.05	0.10(s)	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Sodium			EPA200.7	170	160	110	110	110	<2.0
Thallium		0.002	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

**Table B-2: Summary of December 2, 2014 Ground Water Analytical Results for Total and Dissolved Metals
Cal West Metals Superfund Site (results in milligrams per liter)**

Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-99	CWMW-10	R-1
Vanadium			EPA200.7	<0.020	<0.0020	<0.020	<0.020	<0.020	<0.020
Zinc	10.0	5(s)	EPA200.7	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Metals:									
Aluminum	5.0	0.05-0.2(s)	EPA200.7	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony		0.006	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.1	0.010	EPA200.8	0.0065	0.0074	0.0076	0.0061	0.0080	<0.0030
Barium	1.0	2.0	EPA200.8	0.023	0.037	0.053	0.054	0.077	<0.0010
Beryllium		0.004	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	0.75(i)		EPA200.7	0.22	0.26	0.13	0.12	0.14	<0.050
Cadmium	0.01	0.005	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium			EPA200.7	180	190	73	64	72	0.33
Chromium	0.05	0.1	EPA200.8	0.0078	0.0012	0.014	0.028	0.023	0.0015
Cobalt	0.05		EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper		1.0	EPA200.7	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Iron	1.0	0.3(s)	EPA200.7	<0.10	<0.10	<0.10	0.16	0.18	<0.10
Lead	0.05	0.015	EPA200.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Magnesium			EPA200.7	27	23	17	15	16	0.080
Manganese	0.2	0.05(s)	EPA200.8	0.0027	0.0032	0.0068	0.0068	0.011	<0.0020
Mercury	0.002	0.002	EPA245.1	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum	1.0(i)		EPA200.8	0.0012	0.0014	0.0019	0.0025	0.0025	<0.0010
Nickel	0.2(i)	0.1	EPA200.8	0.0044	<0.0010	0.0095	0.014	0.013	0.0018
Potassium			EPA200.7	5.2	6.8	8.5	7.2	6.4	<0.50
Selenium	0.05	0.05	EPA200.8	0.015	0.027	0.0077	0.0060	0.0067	<0.0050
Silver	0.05	0.10(s)	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Sodium			EPA200.7	170	160	110	100	110	<2.0

Table B-2: Summary of December 2, 2014 Ground Water Analytical Results for Total and Dissolved Metals Cal West Metals Superfund Site (results in milligrams per liter)									
Analyte	WQCC Standard	EPA MCL	EPA Method	CWMW-7	CWMW-8	CWMW-9	CWMW-99	CWMW-10	R-1
Thallium		0.002	EPA200.8	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vanadium			EPA200.7	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Zinc	10.0	5(s)	EPA200.7	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

CWMW-99-Duplicate of CWMW-9

R-1-Rinsate collected from decontamination from CWMW-9

i= irrigation standard

s=secondary standard

EPA MCL=Environmental Protection Agency maximum contaminant level

ND=Not Detected at the Reporting Limit

WQCC Standard=New Mexico Water Quality Control Commission Standard

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-7													
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-97(D)	Apr-98	Apr-99	Apr-00	Aug-02	Aug- 02(D)	Feb-05	Aug-11	Dec-14
Dissolved Metals:													
Aluminum	5.0	0.05-0.2(s)	0.427 NA	<0.01	<0.01	<0.1 CH	<0.01 CH	<0.01	<0.01	<0.05	0.2 U	<0.020	<0.050
Antimony		0.006	<0.0124 U	<0.001	<0.001	<0.001	0.003 H	<0.001	<0.001	<0.005	0.06 U	0.00020 J	<0.0010
Arsenic	0.1	0.05	0.0103 NA	0.006 C	0.006 C	<0.005 CH	<0.001 H	0.005 CH	0.008	0.008	0.01 U	0.0068	0.0065
Barium	1.0	2.0	0.0479 B	<0.1	<0.1	<0.1 CH	<0.1 CH	<0.1	<0.1	<0.5	0.0274 LJ	0.023	0.020
Beryllium		0.004	<0.0006 U	na	na	<0.05 CH	na	na	<0.001	<0.005	0.005 U	0.00046 J	<0.0010
Boron	0.75(i)		na	na	na	0.4 CH	na	na	na	na	na		0.20
Cadmium	0.01	0.005	<0.0009 U	<0.001	<0.001	<0.1 CH	<0.001 CH	<0.001	<0.001	<0.005	0.005 U	<0.0020	<0.0010
Calcium			231 E	na	na	270 C	na	na	na	na	238	220	200
Chromium	0.05	0.1	<0.0049 U	na	na	<0.1 CH	na	na	0.004	<0.005	0.01 U	<0.0060	0.0015
Cobalt	0.05		<0.0018 U	na	na	<0.05 CH	na	na	<0.001	<0.005	0.05 U	0.0018 J	<0.0010
Copper		1.3	0.0074 B	<0.01	<0.01	<0.1 CH	<0.01 CH	<0.01	<0.01	<0.05	0.025 U	<0.0060	<0.020
Iron	1.0(os)	0.3(s)	0.0377 B	<0.05	<0.05	<0.1 C	<0.1 C	<0.05	na	na	0.1 U	<0.020	<0.10
Lead	0.05	0.015	0.0025 B	<0.001	<0.001	<0.001	<0.001 CH	<0.001	<0.001	<0.005	0.01 UR	0.000041 J	<0.0050
Magnesium			33.9 NA	na	na	41	na	na	na	na	395	37	25
Manganese	0.2	0.05(s)	0.021 NA	<0.001	<0.001	<0.05 CH	<0.001 CH	0.001	<0.001	<0.005	0.015 U	0.00014 J	<0.0020
Mercury	0.002	0.002	<0.0001 U	<0.0002	<0.0002	<0.0002 CH	na	<0.0002	na	na	0.000058 LJ		<0.00020
Molybdenum	1.0(i)		na	na	na	0.002 CH	na	na	0.001	<0.005	na		0.0010
Nickel	0.2(i)	0.1	<0.0037 U	<0.01	<0.01	<0.1 CH	<0.01 CH	<0.01	<0.01	<0.05	0.04 U	<0.010	0.0014
Potassium			6.17 E	na	na	na	na	na	na	na	5.97 J^	3.8	5.2
Selenium	0.05	0.05	0.0302 NA	0.018	0.019	0.02 C	0.014 CH	0.019 CH	na	na	0.035 U	0.016	0.015
Silicon			na	na	na	15 CH	na	na	na	na	na		
Silver	0.05	0.05(s)	<0.0034 U	<0.001	<0.001	<0.001	<0.001 CH	<0.001	<0.001	<0.005	0.01 U	<0.0050	<0.0010
Sodium			156 E	na	na	na	na	na	na	na	174	150	170
Strontium			na	na	na	1.5 H	na	na	na	na	na		
Thallium		0.002	<0.0033 U	na	na	na	na	na	<0.001	<0.005	0.025 U	<0.0010	<0.0010
Tin			na	na	na	<0.1 H	na	na	na	na	na		
Uranium									0.013	0.013	na		

Table B-3: Historical Ground Water Analytical Data Per Well Cal West Metals Superfund Site (results in milligrams per liter)													
CWMW-7													
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-97(D)	Apr-98	Apr-99	Apr-00	Aug-02	Aug- 02(D)	Feb-05	Aug-11	Dec-14
Vanadium			0.0069 B	na	na	<0.1 CH	na	na	0.004	<0.005	0.003 LJ	0.0071 J	<0.020
Zinc	10.0	5(s)	0.0232 NA	0.02	<0.01	<0.1 CH	0.01 CH	0.01	0.02	<0.05	0.008 LJ	0.015	<0.020
CWMW-7 Total Metals:													
Aluminum	5.0	0.05-0.2(s)	75 NA	9.6 H	12 H	22	28 C	4	0.36	0.52 H	0.2 U	0.015 J	<0.050
Antimony		0.006	<0.0177 UN	<0.001	<0.001	<0.001	<0.001	<0.001 C	<0.001	<0.005 CH	0.06 U	<0.0025	<0.0010
Arsenic	0.1	0.05	0.0625 N	<0.001	0.012 CH	0.022	0.016 C	<0.002	0.006	0.006 CH	0.01 U	0.0060	0.0065
Barium	1.0	2.0	11.5 NA	2	0.8	0.3	2.8 G	0.9	<0.1	<0.5 CH	0.0315 LJ	0.026	0.023
Beryllium		0.004	0.0036 B	na	na	<0.05	na	na	<0.001	<0.005 CH	0.005 U	0.00018 J	<0.0010
Boron	0.75(i)		na	na	na	0.5	na	na	na	na	na		0.22
Cadmium	0.01	0.005	0.0024 B	<0.001	<0.001	<0.1	<0.001	<0.002	<0.001	<0.005 CH	0.005 U	<0.0020	<0.0010
Calcium			309 N A	na	na	290	na	na	na	na	233	220	180
Chromium	0.05	0.1	0.159 NA	na	na	<0.1	na	na	<0.005	<0.005 CH	0.01 U	0.00059 J	0.0078
Cobalt	0.05		0.0572 NA	na	na	<0.05	na	na	<0.001	<0.005 CH	0.05 U	0.0014 J	<0.0010
Copper		1.3	0.223 NA	0.02	0.03	<0.1	0.06	0.01 C	<0.01	<0.05 CH	0.025 U	<0.0060	<0.020
Iron	1.0(os)	0.3(s)	99.7 NA	12 CH	17 C	31 C	37	5.4	na	na	0.1 U	0.027	<0.10
Lead	0.05	0.015	0.233 NE	0.041	0.041	0.009	0.092	0.014 C	0.002	<0.005 CH	0.01 UR	<0.0025	<0.0050
Magnesium			52.4 NA	na	na	46	na	na	na	na	38.4	37	27
Manganese	0.2	0.05(s)	2.19 NA	0.22	0.34 CH	0.99	0.71	0.11	0.012	0.02 CH	0.00099 L J^	0.001	0.0027
Mercury	0.002	0.002	0.00031 NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	na	na	0.0002 U	0.000037 J	<0.00020
Molybdenum	1.0(i)		na	na	na	<0.1	na	na	0.001	<0.005 CH	na		0.0012
Nickel	0.2(i)	0.1	0.0994 NA	0.02	0.019	<0.1	0.03	0.01 C	<0.01	<0.05 CH	0.04 U	<0.010	0.0044
Potassium			16.5 NA	na	na		na	na	na	na	6.18 J^	3.8	5.2
Selenium	0.05	0.05	0.0257 N	0.02 DFH	0.02 DHF	0.018 DF	0.02 DF	0.03 DF	na	na	0.035 U	0.013	0.015
Silicon			na	na	na	52	na	na	na	na	na		
Silver	0.05	0.05(s)	<0.0033 U	<0.001	<0.001	0.1	<0.001	<0.001 C	<0.001	<0.005 CH	0.01 U	<0.0050	<0.0010
Sodium			167 NA	na	na		na	na	na	na	170	150	170
Strontium			na	na	na	1.4	na	na	na	na	na		
Thallium		0.002	<0.0033 U	na	na		na	na	<0.001	<0.005 CH	0.025 U	<0.0025	<0.0010
Tin			na	na	na	<0.1	na	na	na	na	na		
Uranium									0.013	0.013 CH	na		

Table B-3: Historical Ground Water Analytical Data Per Well Cal West Metals Superfund Site (results in milligrams per liter)													
CWMW-7													
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-97(D)	Apr-98	Apr-99	Apr-00	Aug-02	Aug- 02(D)	Feb-05	Aug-11	Dec-14
Vanadium			0.152 NA	na	na	<0.1	na	na	<0.005	<0.005 CH	0.0031 LJ	0.0049 J	<0.020
Zinc	10.0	5(s)	1.67 NA	na	0.23	0.8	0.5	0.11 C	0.02	<0.05 CH	0.0106 LJ	0.0045 J	<0.020

Table B-3: Historical Ground Water Analytical Data Per Well											
Cal West Metals Superfund Site (results in milligrams per liter)											
CWMW-8											
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-99	Apr-00	Aug-02	Feb-05	Aug-11	Dec-14
Dissolved Metals:											
Aluminum	5.0	0.05-0.2(s)	0.0232 B	<0.01	0.2 C,H	<0.01 C,H	ns	<0.01	0.2 U	< 0.020	<0.050
Antimony		0.006	<0.0124 U	<0.001	<0.001	<0.001 C,H	ns	<0.001	0.06 U	< 0.0010	<0.0010
Arsenic	0.1	0.05	0.0102 N,A	0.006 C	<0.01 C	<0.005 C	ns	0.009	0.01 U	0.0073	0.0069
Barium	1.0	2.0	0.0605 B	<0.1	<0.1 C,H	<0.1 C,H	ns	<0.1	0.0544 L,J	0.041	0.032
Beryllium		0.004	<0.0006 U	na	<0.05 C,H	na	ns	<0.001	0.005 U	< 0.0020	<0.0010
Boron	0.75(i)		na	na	0.3 C,H	na	ns	na	na		0.25
Cadmium	0.01	0.005	<0.0009 U	<0.001	<0.1 C,H	<0.001 C,H	ns	<0.001	0.005 U	< 0.0020	<0.0010
Calcium			218 E	na	260 C	na	ns	na	285	240	180
Chromium	0.05	0.1	<0.0049 U	na	<0.1 D,F,H	na	ns	0.005	0.01 U	< 0.0060	<0.0010
Cobalt	0.05		0.0018 B	na	<0.05 C,H	na	ns	<0.001	0.05 U	< 0.0060	<0.0010
Copper		1.3	<0.0047 U	<0.01	<0.1 C,H	<0.01 C,H	ns	<0.01	0.025 U	< 0.0060	
Iron	1.0	0.3(s)	0.0162 B	<0.05	<0.1 H	<0.05	ns	na	0.1 U	< 0.020	<0.10
Lead	0.05	0.015	0.0011 B	<0.001	<0.001	<0.001 C,H	ns	<0.001	0.01 U,R	< 0.0010	<0.0050
Magnesium			30.8 N,A	na	39 C,H	na	ns	na	43.7	35	22
Manganese	0.2	0.05(s)	0.0032 B	<0.001	<0.05 C,H	<0.001 C,H	ns	0.005	0.015 U	< 0.0020	<0.0020
Mercury	0.002	0.002	<0.0001 U	<0.0002	<0.0002	na	ns	na	0.0002 U		<0.00020
Molybdenum	1.0(i)		na	na	<1.0 C	na	ns	0.001	na		0.0015
Nickel	0.2(i)	0.1	0.0046 B	<0.01	<0.1 C,H	<0.01 C,H	ns	<0.01	0.04 U	< 0.010	<0.0010
Potassium			6.55 E	na	na	na	ns	na	8.94 J^	6.0	6.9
Selenium	0.05	0.05	0.0306 N,A	0.023	0.03 C	0.018 C	ns	na	0.0475 U,C	0.035	0.027

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-8

Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-99	Apr-00	Aug-02	Feb-05	Aug-11	Dec-14
Silicon			na	na	14 D,F,H	na	ns	na	na		
Silver	0.05	0.05(s)	<0.0034 U	<0.001	0.1 C,H	<0.001 C,H	ns	<0.001	0.01 U	< 0.0050	<0.0010
Sodium			134 E	na	na	na	ns	na	158	150	160
Strontium			na	na	2.1 H	na	ns	na	na		
Thallium		0.002	<0.0033 U	na	na	na	ns	<0.001	0.025 U	< 0.0010	<0.0010
Tin			na	na	<0.1 H	na	ns	na	na		
Uranium								0.018	na		
Vanadium			0.0079 B	na	<0.1 C,H	na	ns	0.003	0.0025 L,J	< 0.050	<0.020
Zinc	10.0	5(s)	0.0082 B	<0.01	<0.1 C,H	<0.01 C,H	ns	0.01	0.0051 L,J	< 0.010	<0.020
CWMW-8 Total Metals:											
Aluminum	5.0	0.05-0.2(s)	15.7 N,A	2.3	1	3.8 H	ns	3.3	0.2 U	0.063	<0.050
Antimony		0.006	<0.0177 U,N	<0.001	<0.001	<0.001 I	ns	<0.001	0.06 U	<0.0025	<0.0010
Arsenic	0.1	0.05	0.0424 N	0.011 C	<0.01 C	0.002	ns	0.015	0.01 U	0.0065	0.0074
Barium	1.0	2.0	2.3 N,A	0.5	0.2	0.6 H	ns	0.9	0.0548 L,J	0.045	0.037
Beryllium		0.004	<0.0005 U	na	<0.05	na	ns	<0.001	0.005 U	0.00022 J	<0.0010
Boron	0.75(i)			na	0.3	na	ns	na	na		0.26
Cadmium	0.01	0.005	<0.0015 U	<0.001	<0.1	<0.001 H	ns	<0.001	0.005 U	<0.0020	<0.0010
Calcium			24.5 N,A	na	260	na	ns	na	282	240	190
Chromium	0.05	0.1	0.032 N,A	na	<0.1	na	ns	0.008	0.01 U	0.0019 J	0.0012
Cobalt	0.05		0.0118 B	na	<0.05	na	ns	0.003	0.05 U	0.0013 J	<0.0010
Copper		1.3	0.0214 B	<0.01	<0.1	0.01 H	ns	0.01	0.025 U	<0.0060	<0.020
Iron	1.0	0.3(s)	19.7 N,A	3.2	1.6	4.9 H	ns	na	0.1 U	0.073	<0.10
Lead	0.05	0.015	0.0497 N,E	0.009	0.01	0.008	ns	0.007	0.01 U,R	0.00065 J	<0.0050
Magnesium			35.3 N,A	na	42	na	ns	na	43.2	34	23
Manganese	0.2	0.05(s)	0.657 N,A	0.15	0.07	0.18 H	ns	0.16	0.00032 L,J^	0.0037	0.0032
Mercury	0.002	0.002	0.00015 B	<0.0002	<0.0002	<0.0002	ns	na	0.0002 U	0.000040 J	<0.00020
Molybdenum	1.0(i)			na	0.002	na	ns	0.003	na		0.0014
Nickel	0.2(i)	0.1	0.0187 B	0.01	<0.1	<0.01 H	ns	0.01	0.04 U	<0.010	<0.0010
Potassium			9.54 N,A	na	na	na	ns	na	8.79 J^	5.8	6.8

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-8

Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-99	Apr-00	Aug-02	Feb-05	Aug-11	Dec-14
Selenium	0.05	0.05	0.0307 N	0.026 C	0.032 C	0.03 C	ns	na	0.035 U	0.029	0.027
Silicon				na	17	na	ns	na	na		
Silver	0.05	0.05(s)	0.0049 B	<0.001	<0.001	<0.001 I	ns	<0.001	0.01 U	<0.0050	<0.0010
Sodium			139 N,A	na	na	na	ns	na	163	150	160
Strontium				na	2.3	na	ns	na	na		
Thallium		0.002	<0.0033 U	na	na	na	ns	<0.001	0.025 U	<0.0025	<0.0010
Tin				na	<0.1	na	ns	na	na		
Uranium								0.017	na		
Vanadium			0.0378 B	na	<0.1	na	ns	0.010	0.0025 L,J	0.0044 J	<0.020
Zinc	10.0	5(s)	0.177 N,A	0.03	0.1	0.07 H	ns	0.12	0.0045 L,J	0.0032 J	<0.020

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-9

Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-98	Apr-99	Apr-99(D)	Apr-00	Aug-02	Feb-05	Feb-05(D)	Aug-11	Dec-14	Dec-14(D)
Dissolved Metals:															
Aluminum	5.0	0.05-0.2(s)	0.0684 B	<0.01	<0.1 H	ns	<0.01 C,H	ns	<0.01	<0.01 C,H	0.2 U	0.0002 U	<0.020	<0.050	<0.050
Antimony		0.006	<0.0124 U	<0.001	<0.001	ns	0.003 C,H	ns	<0.001 C,H	<0.001 C,H	0.06 U	0.06 U	0.00022 J	<0.0010	<0.0010
Arsenic	0.1	0.05	0.0092 B	0.008 C,H	0.006 C	ns	0.005 C,H	ns	0.006	0.009 C,H	0.01 U	0.01	0.0075	0.0072	0.0071
Barium	1.0	2.0	0.0794 B	<0.1	<0.1 C,H	ns	<0.1 C,H	ns	<0.1 C,H	<0.1 C,H	0.0596 L,J	0.0596 L,J	0.053	0.045	0.044
Beryllium		0.004	<0.0006 U	na	<0.05 C,H	ns	na	ns	na	<0.001	0.005 U	0.005 U	0.00032 J	<0.0010	<0.0010
Boron	0.75(i)		na	na	0.2 C,H	ns	na	ns	na	na	na	na		0.14	0.14
Cadmium	0.01	0.005	<0.0009 U	<0.001	<0.1 C,H	ns	<0.001 C,H	ns	<0.001 C,H	<0.001 C,H	0.005 U	0.005 U	<0.0020	<0.0010	<0.0010
Calcium			110 E	na	120 H	ns	na	ns	na	na	133	133	140	69	72
Chromium	0.05	0.1	<0.0049 U	na	<0.1 C,H	ns	na	ns	na	0.004 C,H	0.01 U	0.01 U	0.0012 J	0.0014	0.0018
Cobalt	0.05		<0.0018 U	na	<0.05 C,H	ns	na	ns	na	<0.001 C,H	0.05 U	0.05 U	0.0014 J	<0.0010	<0.0010
Copper		1.3	<0.0047 U	<0.01	<0.1 C,H	ns	<0.01 C,H	ns	<0.01	<0.01 C,H	0.025 U	0.025 U	<0.0060	<0.020	<0.020
Iron	1.0	0.3(s)	0.0525 B	<0.05 C	<0.1 C,H	ns	<0.05	ns	<0.05 C,H	na	0.1 U	0.1 U	<0.020	<0.10	<0.10

Table B-3: Historical Ground Water Analytical Data Per Well Cal West Metals Superfund Site (results in milligrams per liter) CWMW-9															
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-98	Apr-99	Apr-99(D)	Apr-00	Aug-02	Feb-05	Feb-05(D)	Aug-11	Dec-14	Dec-14(D)
Lead	0.05	0.015	0.0012 B	<0.001	<0.001	ns	<0.001 C,H	ns	<0.001 C,H	<0.001 C,H	0.01 U,R	0.01 U,R	<0.0010	<0.0050	<0.0050
Magnesium			19.9 N,A	na	24 H	ns	na	ns	na	na	23.9	23.9	24	16	17
Manganese	0.2	0.05(s)	0.0034 B	<0.001	<0.05 C,H	ns	<0.001 C,H	ns	0.002	<0.001	0.00091 L,J^	0.00091 L,J^	0.00025 J	0.0023	0.0022
Mercury	0.002	0.002	<0.0001 U	<0.0002	<0.0002	ns	na	ns	<0.0002	na	0.0002 U	0.0002 U		<0.00020	<0.00020
Molybdenum	1.0(i)		na	na	0.002	ns	na	ns	na	0.002 C,H	0	na		0.0017	0.0016
Nickel	0.2(i)	0.1	<0.0037 U	<0.01	<0.1 C,H	ns	<0.01 C,H	ns	<0.01	<0.01 C,H	0.04 U	0.04 U	<0.010	0.0034	0.0032
Potassium			5.05 E	na	na	ns	na	ns	na	na	7.21 j^	7.21 J^	5.7	8.0	7.5
Selenium	0.05	0.05	0.0172 E	<0.005 D	0.009 C,H	ns	0.006 C	ns	0.008 C	na	0.035 U	0.035 U	0.0081	0.0079	0.0079
Silicon			na	na	15 C,H	ns	na	ns	na	na	0	na			
Silver	0.05	0.05(s)	<0.0034 U	<0.001	<0.1 C,H	ns	<0.001 C,H	ns	<0.001 C,H	<0.001 C,H	0.01 U	0.01 U	<0.0050	<0.0010	<0.0010
Sodium			74.6 E	na	na	ns	na	ns	na	na	83.7	83.7	99	110	110
Strontium			na	na	1.3 C,H	ns	na	ns	na	na	0	na			
Thallium		0.002	<0.0033 U	na	na	ns	na	ns	na	<0.001 C,H	0.025 U	0.025 U	<0.0010	<0.0010	<0.0010
Tin			na	na	<0.1 C,H	ns	na	ns	na	na	0	na			
Uranium										0.018 C,H	0	na			
Vanadium			0.0074 B	na	<0.1 H	ns	na	ns	na	0.006 C,H	0.0053 L,J	0.0053 L,J	0.0080 J	<0.020	<0.020
Zinc	10.0	5(s)	0.011 B	0.02	<0.1 C,H	ns	<0.01 C,H	ns	0.01	0.02	0.0092 L,J	0.0092 L,J	0.01	<0.020	<0.020
CWMW-9 Total Metals:															
Aluminum	5.0	0.05-0.2(s)	47.5 N,A	15 C,H	5.1	4.9	2	1.9 H	3.9	0.98	18.9	0.2 U	0.18	<0.050	<0.050
Antimony		0.006	0.0412 B,N	<0.001 C,H	<0.001	<0.001	<0.001	<0.001 C,H	<0.001	<0.001	0.06 U	0.06 U	<0.0025	<0.0010	<0.0010
Arsenic	0.1	0.05	0.0913 N	0.034 C,H	0.018	0.02	0.009	0.007 C,H	0.013 C	0.009	0.0277	0.0089 L,J	0.0070	0.0076	0.0061
Barium	1.0	2.0	7.09 N,A	2.3 C,D	1	1.1 C	0.3	0.3 H	0.6	0.2	2.44	0.0588 L,J	0.076	0.053	0.054
Beryllium		0.004	0.0014 B	na	<0.05 C	<0.05 C	na	na	na	<0.001	0.005 U	0.005 U	<0.0020	<0.0010	<0.0010
Boron	0.75(i)		na	na	0.2 C	0.2 C	na	na	na	na	na	na		0.13	0.12
Cadmium	0.01	0.005	<0.0015 U	<0.001 C,H	<0.1 C	<0.1 C	<0.001	<0.001 H	<0.002	<0.001	0.005 U	0.005 U	<0.0020	<0.0010	<0.0010
Calcium			140 N,A	na	130	120 C	na	na	na	na	139	131	130	73	64
Chromium	0.05	0.1	0.121 N,A	na	<0.1 C	<0.1 C	na	na	na	<0.005	0.0411	0.0013	0.0028 J	0.014	0.028
Cobalt	0.05		0.045 B	na	<0.05 C	<0.05 C	na	na	na	0.001	0.0128 L,J	0.05 U	0.0014 J	<0.0010	<0.0010
Copper		1.3	0.0932 N,A	0.03 C,H	<0.1 C	<0.05 C	<0.01	<0.01 C,H	<0.01	<0.01	0.029	0.025 U	0.0011 J	<0.020	<0.020
Iron	1.0 (os)	0.3(s)	66.1 N,A	20 H	7.4	7.0	2.9	2.6 C,H	5.6	na	21.3	0.1 U	0.20	<0.10	0.16

Table B-3: Historical Ground Water Analytical Data Per Well Cal West Metals Superfund Site (results in milligrams per liter)															
CWMW-9															
Analyte	WQCC Standard	EPA MCL	Apr-96	Apr-97	Apr-98	Apr-98	Apr-99	Apr-99(D)	Apr-00	Aug-02	Feb-05	Feb-05(D)	Aug-11	Dec-14	Dec-14(D)
Lead	0.05	0.015	0.0753 N,E	0.022 H	0.013	0.018	0.005	0.004 C,H	0.008	0.003	0.01 U,R	0.01 U,R	0.00033 J	<0.0050	<0.0050
Magnesium			31.5 N,A	na	23	23 C	na	na	na	na	27	23.5	24	17	15
Manganese	0.2	0.05(s)	1.64 N,A	0.58 C,H	0.25 C	0.3 C	0.08	0.074 C,H	0.16	0.043	0.531	0.00094 L,J^	0.0040	0.0068	0.0068
Mercury	0.002	0.002	0.00029 N,A	<0.0002	<0.0002	<0.0002	<0.0002	na	<0.0002	na	0.00013 L,J	0.0002 U	0.000038 J	<0.00020	<0.00020
Molybdenum	1.0(i)		na	na	<0.1 C	<0.1 C	na	na	na	0.003	na	na		0.0019	0.0025
Nickel	0.2(i)	0.1	0.0717 N,A	0.02 C,H	<0.1 C	<0.1 C	<0.01	<0.01 C,H	<0.01	<0.01	0.0236 L,J	0.04 U	<0.010	0.0095	0.014
Potassium			14.1 N,A	na	na	na	na	na	na	na	12 J^	6.64 J^	5.6	8.5	7.2
Selenium	0.05	0.05	0.0181 N	<0.005 D,F,H	0.01 C	0.01 C	0.01 C	0.005 C	0.007 C	na	0.035 U	0.035 U	0.0069	0.0077	0.0060
Silicon			na	na	25	22 C	na	na	na	na	na	na			
Silver	0.05	0.05(s)	<0.0033 U	<0.001 C,H	<0.1 C	<0.1 D	<0.001	<0.001 C,H	<0.001	<0.001	0.01 U	0.01 U	<0.0050	<0.0010	<0.0010
Sodium			81.8 N,A	na	na	na	na	na	na	na	83.3	82.5	97	110	100
Strontium			na	na	1.3	1.3 C	na	na	na	na	0	na			
Thallium		0.002	<0.0033 U	na	na	na	na	na	na	<0.001	0.025 U	0.025 U	<0.0025	<0.0010	<0.0010
Tin			na	na	0.1 D	<0.1	na	na	na	na	0	na			
Uranium										0.017	0	na			
Vanadium			0.132 N,A	na	<0.1 C	<0.1 C	na	na	na	0.007	0.0495 L,J	0.0049 L,J	0.0064 J	<0.020	<0.020
Zinc	10.0	5.0(s)	1.27 N,A	0.42 C,H	0.2 C	0.3 C	0.07	0.07 C,H	0.12	0.11	0.303	0.008 L,J	0.0084 J	<0.020	<0.020

Table B-3: Historical Ground Water Analytical Data Per Well Cal West Metals Superfund Site (results in milligrams per liter)						
CWMW-10						
Analyte	WQCC Standard	EPA MCL	Feb-05	Aug-11	Aug-11(D)	Dec-14
Dissolved Metals:						
Aluminum	5.0	0.05-0.2(s)	0.2 U	<0.020	<0.020	<0.050
Antimony		0.006	0.06 U	0.00027 J	0.00027 J	<0.0010
Arsenic	0.1	0.01	0.01	0.0095	0.0093	0.0095
Barium	1.0	0.004	0.0667 L,J	0.055	0.054	0.042
Beryllium		0.004	0.005 U	0.00033 J	0.00027 J	<0.0010

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-10

Analyte	WQCC Standard	EPA MCL	Feb-05	Aug-11	Aug-11(D)	Dec-14
Dissolved Metals:						
Boron	0.75(i)		na			0.12
Cadmium	0.01	0.005	0.005 U	<0.0020	<0.0020	<0.0010
Calcium			129	140	130	70
Chromium	0.05	0.1	0.01 U	0.00047 J	0.00093 J	<0.0010
Cobalt	0.05		0.05 U	0.0012 J	0.0013 J	<0.0010
Copper		1.3	0.025 U	<0.00066	<0.0060	<0.020
Iron	1.0 (os)	0.3(s)	0.1 U	<0.020	<0.020	<0.10
Lead	0.05	0.015	0.01 U,R	0.000038 J	0.000033 J	<0.0050
Magnesium			21.4	24	23	16
Manganese	0.2	0.05(s)	0.0029 L,J	0.0045	0.0048	0.0046
Mercury	0.002	0.002	0.0002 U			<0.00020
Molybdenum	1.0(i)		na			0.0015
Nickel	0.2(i)	0.1	0.04 U	<0.010	<0.010	0.0012
Potassium			6.47 J^	5.3	5.4	6.9
Selenium	0.05	0.05	0.0187 L,J	0.010	0.0096	0.0085
Silicon			na			
Silver	0.05	0.05(s)	0.01 U	<0.0050	<0.0050	<0.0010
Sodium			96.4	100	100	110
Strontium			na			
Thallium		0.002	0.025 U	<0.0010	<0.0010	<0.0010
Tin			na			
Uranium			na			
Vanadium			0.0053 L,J	0.0079 J	0.0076	<0.020
Zinc	10.0	5(s)	0.0023 L,J	0.014	0.012	<0.020
CWMW 10 Total Metals:						
Aluminum	5.0	0.05-0.2(s)	1.98	0.027	0.033	<0.050
Antimony		0.006	0.06 U	<0.0025	<0.0025	<0.0010
Arsenic	0.1	0.05	0.0084 L,J	0.0093	0.0095	0.0080

**Table B-3: Historical Ground Water Analytical Data Per Well
Cal West Metals Superfund Site (results in milligrams per liter)**

CWMW-10

Analyte	WQCC Standard	EPA MCL	Feb-05	Aug-11	Aug-11(D)	Dec-14
Dissolved Metals:						
Barium	1.0	2.0	0.591	0.059	0.062	0.077
Beryllium		0.004	0.005 U	<0.0020	<0.0020	<0.0010
Boron	0.75(i)		na			0.14
Cadmium	0.01	0.005	0.005 U	<0.0020	<0.0020	<0.0010
Calcium			134	130	140	72
Chromium	0.05	0.1	0.0031 L,J	0.0017 J	0.0019 J	0.023
Cobalt	0.05		0.0033 L,J	0.00087 J	0.00066 J	<0.0010
Copper		1.3	0.0037 L,J	0.00087 J	0.0014 J	<0.020
Iron	1.0 (os)	0.3(s)	2.21	0.037	0.046	0.18
Lead	0.05	0.015	0.01 U,R	<0.0025	<0.0025	<0.0050
Magnesium			22.5	23	23	16
Manganese	0.2	0.05(s)	0.163	0.0057	0.0060	0.011
Mercury	0.002	0.002	0.002 U	0.000040 J	0.000042 J	<0.00020
Molybdenum	1.0(i)		na			0.0025
Nickel	0.2(i)	0.1	0.0038 L,J	<0.010	<0.010	0.013
Potassium			7.03 J^	5.2	5.3	6.4
Selenium	0.05	0.05	0.0193 L,J	0.0087	0.0089	0.0067
Silicon			na			
Silver	0.05	0.05(s)	0.01 U	<0.0050	<0.0050	<0.0010
Sodium			99.5	100	100	110
Strontium			na			
Thallium		0.002	0.025 U	<0.0025	<0.0025	<0.0010
Tin			na			
Uranium			na			
Vanadium			0.011 L,J	0.0061	0.0063 J	<0.020
Zinc	10.0	5(s)	0.0096 L,J	<0.010	0.00092 J	<0.020

Data Qualifier Codes and Definitions for App B Table 3

A=Insufficient sample for analysis
B=Laboratory Reagent Blank
BOLD=exceeds WQCC or EPA MCL
C=Spike recovery between 80-120%
D=Spike recovery <80% or >120%
(D)=Duplicate sample
E=Over Calibration Range
EPA MCL=EPA Maximum Contaminant Level
F=Matrix interference suspected
G=Inconsistent results; suggest re-sampling
H=Analyzed in duplicate
I=Analyzed in Triplicate
i=irrigation standard
J=Estimated quantity, only
L=Equals or exceeds USEPA MCL
N=Insufficient sample to verify results

os=WQCC other standard for domestic water supply
R=The data are unusable
s=Secondary Standard
U=Not detected above the PQL or SDL
na= not analyzed
ns=not sampled
WQCC=Water Quality Control Commission
^=High biased

Table B-4: Well Completion Details and Water Levels
Cal West Metals Superfund Site

Well ID	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Screened Interval (ft bgs)	Casing Diameter (in)	Top of Casing Elevation (ft amsl)	Measured Date	Depth to Water (ft bgs)	Water Table Elevation (ft amsl)
CWMW-7	108	99	79-99	2	4703.78	10/29/96	86.71	4617.07
						4/1/97	87.39	4616.39
						4/1/98	87.16	4616.62
						4/1/99	87.15	4616.63
						4/1/00	87.3	4616.48
						8/7/02	86.4	4617.38
						2/22/05	87.21	4616.57
						10/20/09	85.88	4617.90
						4/15/10	86.60	4617.18
						8/9/11	86.18	4617.60
						12/2/14	87.03	4616.75
CWMW-8	103	97	77-92	2	4699.13	10/29/96	82.06	4617.07
						4/1/97	82.8	4616.33
						4/1/98	82.52	4616.61
						4/1/99	82.51	4616.62
						8/7/02	81.76	4617.37
						2/22/05	82.61	4616.52
						10/20/09	81.23	4617.90
						4/15/10	81.96	4617.17
						8/9/11	81.86	4617.27
						12/2/14	82.78	4616.35
CWMW-9	121	108	88-103	2	4716.21	10/29/96	99.48	4616.73
						4/1/97	100.02	4616.01
						4/1/98	99.85	4616.36
						4/1/99	99.88	4616.33
						4/1/00	99.99	4616.22
						8/7/02	99.24	4616.97
						2/22/05	100	4616.21
						10/20/09	98.68	4617.53
						4/15/10	99.31	4616.90
						8/9/11	98.98	4617.23
						12/2/14	99.75	4616.46
CWMW-10	120	120	96-116	2	4717.96	2/22/05	103.9	4614.06
						10/20/09	100.47	4617.49
						4/15/10	101.11	4616.85
						8/9/11	100.81	4617.15
						12/2/2014	101.57	4616.39

Notes: ft amsl = feet above mean sea level

ft bgs = feet below ground surface

in = inches

Appendix C – Documents Reviewed

Documents Reviewed

EPA, 2010. Third Five Year Review Report. September 24, 2010.

EPA, 2005. Second Five Year Review Report. September 19, 2005.

EPA, 2001. Comprehensive Five-Year Review Guidance. EPA540R-98-050, OSWER Directive 9335.7-03B-P. June 2001.

EPA, 2000. First Five Year Review Report. September 20, 2000.

EPA, 1995. Final Closeout Report for Cal West Metals. June 1996.

EPA, 1992. September 29, 1992. Record of Decision for the Cal West Metals Superfund Site. September 29, 1992.

Hall Environmental Analysis Laboratory, August 2011. Analytical Report.

NMED, Field Log Book Entries 1996-2014

NMED, 1997. Operation and Maintenance Manual. March 21, 1997.

NMED, 1992. Remedial Investigation/Feasibility Study Phase II. April 23, 1992.

NMED, 1990. Remedial Investigation/Feasibility Study Phase I.

NMED, 1986. Site Inspection Follow-up

NMED, 1985. CERCLA Site Inspection. August 1985.

Summit Environmental Technologies, Inc., December 2014. Analytical Report

WasteLan (CERCLIS)

Appendix D – Interviews

INTERVIEW RECORD		
Site Name: Cal West Metals		EPA ID No.: NMD097960272
Subject: Cal West Metals Fourth Five Year Review		Time: Date:
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing
Contact Made By:		
Name: Sabino Rivera	Title: Project Manager	Organization: NMED
Individual Contacted:		
Name: Jay Santillanes	Title: Director	Organization: City of Socorro
Telephone No: 505-263-4806 Fax No: E-Mail Address: jsantillanes@socorronm.gov		Street Address: PO Drawer K City, State, Zip: Socorro, NM 87801
Summary Of Conversation		
<ol style="list-style-type: none"> What is your overall impression of the project? (general sentiment) <i>The site was adequately cleaned up and contamination area capped, which improved the area.</i> Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give purpose and results. <i>We visit or drive by the site frequently, with no change or anything to report.</i> Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events and results of the responses. <i>No complaints or violations related to the site.</i> Do you feel well informed about the site's activities and progress? <i>Yes</i> Do you have any comments, suggestions, or recommendations regarding the site's management or operation? <i>No comments.</i> 		

INTERVIEW RECORD		
Site Name: Cal West Metals		EPA ID No.: NMD097960272
Subject: Cal West Metals Fourth Five Year Review		Time: 11:01 AM Date: 3-5-15
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other Location of Visit:		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing
Contact Made By:		
Name: Sabino Rivera	Title: Project Manager	Organization: NMED
Individual Contacted:		
Name: Pat Salome	Title: City Clerk	Organization: City of Socorro
Telephone No: 575-835-0240 Fax No: 575-838-4027 E-Mail Address: ssaavedra@socorronm.gov		Street Address: PO Drawer K City, State, Zip: Socorro, NM 87801
Summary Of Conversation		
1. What is your overall impression of the project? (general sentiment) <i>The project, as completed, has been very well-explained and the project has provided a very practical solution in addressing this issue.</i>		
2. Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give purpose and results. <i>The City, through its representative, has regular communications with the individual occupying the project area in an effort to visually inspect and assure that the integrity of the site is maintained.</i>		
3. Have there been any complaints, violations, or other incidents related to the site requiring a response by your office? If so, please give details of the events and results of the responses. <i>No</i>		
4. Do you feel well informed about the site's activities and progress? <i>Yes</i>		
5. Do you have any comments, suggestions, or recommendations regarding the site's management or operation? <i>Not at this time.</i>		

INTERVIEW RECORD		
Site Name: Cal West Metals		EPA ID No.: NMD097960272
Subject: Cal West Metals Annual River Year Review		Name: _____ Date: _____
Type: <input type="checkbox"/> Telephone <input type="checkbox"/> Visit <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing
Location of Visit: _____		
Contact Made By:		
Name: Sabine Rivera	Title: Project Manager	Organization: NMED
Individual Contacted:		
Name: Shayne Durkin	Title: Property Owner	Organization: Durkin Diesel
Telephone No: 505-263-4806		Street Address: 57 W. Frontage Road
Fax No: _____		City, State, Zip: Lemitar, NM 87823
E-Mail Address: _____		
Summary Of Conversation		
<p>1. What is your overall impression of the project? (general sentiment) GREAT CLEAN-UP PROJECT! RECOVERED A VERY NICE PIECE OF PROPERTY AND OLD BUILDINGS,</p> <p>2. What effects have site operations had on the surrounding community? A GREAT OPPORTUNITY AND BUSINESS LOCATION. I BELIEVE PEOPLE SEE THE SITE AS A FUNCTIONING PART OF THE COMMUNITY NOW INSTEAD OF AN</p> <p>3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details. ENVIRONMENTAL HAZARD. VISITORS TO THE SITE SEEM TO HAVE POSITIVE REACTIONS.</p> <p>4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details. THERE HAVE BEEN 5 OCCURANCES IN THE LAST 5 YEARS. COPPER THEFT, GRAFFITI, BROKEN WINDOWS. WE NOW HAVE A PERIMETER FENCE WHICH WE HOPE WILL HELP PREVENT THIS.</p> <p>5. Do you feel well informed about the site's activities and progress? VERY WELL INFORMED.</p> <p>6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation? SITE MANAGEMENT IS RUN WELL. COMMUNICATION AND INFORMATION ACCESSABILITY HAVE BEEN GREAT!</p>		

505 827 2965

Appendix E– Site Inspection Checklist

I. SITE INFORMATION	
Site name: Cal West Metals	Date of inspection: 12/2/2014
Location and Region: Lemitar, New Mexico, Region 6	EPA ID: NMD097960272
Agency, office, or company leading the five-year review: US EPA Region 6	Weather/temperature: Clear and Cool / 40° F.
Remedy Includes: (Check all that apply) <input type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Access controls <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Institutional controls <input type="checkbox"/> Vertical barrier walls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input checked="" type="checkbox"/> Other <u>Excavation and treatment by stabilization/solidification to meet the treatment standards defined in the ROD of approximately 15,000 cubic yards of contaminated soils, sediments, and source materials; Disposal of the treated contaminated material in an on-site repository; Monitoring site ground water with existing monitoring wells.</u>	
Attachments: <input type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> Site map attached	
II. INTERVIEWS (Check all that apply)	
1. O&M site manager _____ <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____	
2. O&M staff _____ <div style="display: flex; justify-content: space-between; width: 100%;"> Name Title Date </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone no. _____ Problems, suggestions; <input type="checkbox"/> Report attached _____	

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency City of Socorro

Contact Jay Santillanes Utilities Director 2/5/2015 575-835-0240
Name Title Date Phone no.

Problems; suggestions; ☒ Report attached

Agency City of Socorro

Contact Pat Salome City Clerk 3/5/2015 575-835-0240
Name Title Date Phone no.

Problems; suggestions; ☒ Report attached

Agency _____

Contact _____
Name Title Date Phone no.

Problems; suggestions; ☐ Report attached

Agency _____

Contact _____
Name Title Date Phone no.

Problems; suggestions; ☐ Report attached

4. **Other interviews** (optional) ☒ Report attached.

Shayne Durkin, property owner

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents			
<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks _____			
2. Site-Specific Health and Safety Plan <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A			
<input type="checkbox"/> Contingency plan/emergency response plan <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input type="checkbox"/> N/A			
Remarks _____			
3. O&M and OSHA Training Records <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A			
Remarks <u>O&M and OSHA training records are available in the NMED Office in Santa Fe, NM.</u>			
4. Permits and Service Agreements			
<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks _____			
5. Gas Generation Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A			
Remarks _____			
6. Settlement Monument Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A			
Remarks _____			
7. Groundwater Monitoring Records <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A			
Remarks <u>Ground water monitoring records available in the Site files located at the NMED/SOS office located in Santa Fe, NM</u>			
8. Leachate Extraction Records <input type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input checked="" type="checkbox"/> N/A			
Remarks _____			

9. Discharge Compliance Records			
_Air	_Readily available	_Up to date	<input checked="" type="checkbox"/> _N/A
_Water (effluent)	_Readily available	_Up to date	<input checked="" type="checkbox"/> _N/A
Remarks _____			
10. Daily Access/Security Logs			
	_Readily available	_Up to date	<input checked="" type="checkbox"/> _N/A
Remarks _____			
IV. O&M COSTS			
1. O&M Organization			
<input checked="" type="checkbox"/> State in-house	_Contractor for State		
_PRP in-house	_Contractor for PRP		
_Federal Facility in-house	_Contractor for Federal Facility		
_Other _____			
2. O&M Cost Records			
<input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date			
<input checked="" type="checkbox"/> Funding mechanism/agreement in place			
Original O&M cost estimate _____ \$5,000 _____		_Breakdown attached	
Total annual cost by year for review period if available			
From <u>September 2010</u> To <u>September 2011</u> _____ \$0 _____ Breakdown attached			
Date	Date	Total cost	
From <u>September 2011</u> To <u>September 2012</u> _____ \$0 _____ Breakdown attached			
Date	Date	Total cost	
From <u>September 2012</u> To <u>September 2013</u> <u>\$3,400</u> _____ Breakdown attached			
Date	Date	Total cost	
From <u>September 2013</u> To <u>September 2014</u> _____ Breakdown attached			
Date	Date	Total cost	
From <u>September 2014</u> To <u>September 2015</u> _____ Breakdown attached			
Date	Date	Total cost	

<p>3. Unanticipated or Unusually High O&M Costs During Review Period</p> <p>Describe costs and reasons: _____</p> <p>_____</p>										
<p>V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/>Applicable <input type="checkbox"/>N/A</p>										
<p>A. Fencing</p>										
<p>1. Fencing damaged <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/>N/A</p> <p>Remarks: <u>Fencing is in good repair. Railroad tie fence constructed on south side of Site. Approximately 230 feet of pipe fence constructed on southeast corner Ingress/Egress limited to the main gate entering the facility. Gate is secured when business is closed.</u></p>										
<p>B. Other Access Restrictions</p>										
<p>1. Signs and other security measures <input type="checkbox"/> Location shown on site map <input type="checkbox"/>N/A</p> <p>Remarks: <u>Signs are in place around the perimeter of the repository cell. Signs are legible and secured.</u></p>										
<p>C. Institutional Controls (ICs)</p>										
<p>1. Implementation and enforcement</p> <p>Site conditions imply ICs not properly implemented <input type="checkbox"/>Yes <input checked="" type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Site conditions imply ICs not being fully enforced <input type="checkbox"/>Yes <input checked="" type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Type of monitoring (e.g., self-reporting, drive by) <input type="checkbox"/> frequent site visits and drive by <input type="checkbox"/></p> <p>Frequency _____</p> <p>Responsible party/agency <input type="checkbox"/> City of Socorro _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Contact</td> <td style="width: 30%;"><u>Jay Santillanes</u></td> <td style="width: 20%;"><u>Utilities Director</u></td> <td style="width: 15%;"><u>2/5/2015</u></td> <td style="width: 15%;"><u>575-835-0240</u></td> </tr> <tr> <td></td> <td style="text-align: center;">Name</td> <td style="text-align: center;">Title</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Phone no.</td> </tr> </table> <p>Reporting is up-to-date <input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Reports are verified by the lead agency <input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Specific requirements in deed or decision documents have been met <input checked="" type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Violations have been reported <input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>N/A</p> <p>Other problems or suggestions: <input type="checkbox"/> Report attached</p> <p>_____</p>	Contact	<u>Jay Santillanes</u>	<u>Utilities Director</u>	<u>2/5/2015</u>	<u>575-835-0240</u>		Name	Title	Date	Phone no.
Contact	<u>Jay Santillanes</u>	<u>Utilities Director</u>	<u>2/5/2015</u>	<u>575-835-0240</u>						
	Name	Title	Date	Phone no.						

2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate	<input type="checkbox"/> N/A
Remarks <u>Deed restriction in place.</u>				
D. General				
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident	
Remarks _____				
2.	Land use changes on site	<input checked="" type="checkbox"/> N/A		
Remarks _____				
3.	Land use changes off site	<input checked="" type="checkbox"/> N/A		
Remarks _____				
VI. GENERAL SITE CONDITIONS				
A. Roads <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A				
1.	Roads damaged	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Roads adequate	<input type="checkbox"/> N/A
Remarks _____				
B. Other Site Conditions				
Remarks _____				

VII. LANDFILL COVERS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A				
A. Landfill Surface				
1.	Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
Areal extent _____ Depth _____				
Remarks _____				

2.	Cracks	_Location shown on site map _Cracking not evident Lengths _____ Widths _____ Depths _____ Remarks _____ _____
3.	Erosion	_Location shown on site map _Erosion not evident Areal extent _____ Depth _____ Remarks _____ _____
4.	Holes	_Location shown on site map _Holes not evident Areal extent _____ Depth _____ Remarks _____ _____
5.	Vegetative Cover	_Grass _Cover properly established _No signs of stress _Trees/Shrubs (indicate size and locations on a diagram) Remarks _____ _____
6.	Alternative Cover (armored rock, concrete, etc.)	_N/A Remarks _____ _____
7.	Bulges	_Location shown on site map _Bulges not evident Areal extent _____ Height _____ Remarks _____ _____
8.	Wet Areas/Water Damage	_Wet areas/water damage not evident _Wet areas _Location shown on site map Areal extent _____ _Ponding _Location shown on site map Areal extent _____ _Seeps _Location shown on site map Areal extent _____ _Soft subgrade _Location shown on site map Areal extent _____ Remarks _____ _____

9.	Slope Instability	_Slides	_Location shown on site map	_No evidence of slope instability
Areal extent _____				
Remarks _____				
B. Benches _Applicable _N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)				
1.	Flows Bypass Bench		_Location shown on site map	_N/A or okay
Remarks _____				
2.	Bench Breached		_Location shown on site map	_N/A or okay
Remarks _____				
3.	Bench Overtopped		_Location shown on site map	_N/A or okay
Remarks _____				
C. Letdown Channels _Applicable _N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)				
1.	Settlement		_Location shown on site map	_No evidence of settlement
Areal extent _____ Depth _____				
Remarks _____				
2.	Material Degradation		_Location shown on site map	_No evidence of degradation
Material type _____ Areal extent _____				
Remarks _____				
3.	Erosion		_Location shown on site map	_No evidence of erosion
Areal extent _____ Depth _____				
Remarks _____				

4.	Undercutting	_ Location shown on site map _ No evidence of undercutting
	Areal extent _____	Depth _____
	Remarks _____	
5.	Obstructions	Type _____ _ No obstructions
	_ Location shown on site map	Areal extent _____
	Size _____	
	Remarks _____	
6.	Excessive Vegetative Growth	Type _____
	_ No evidence of excessive growth	
	_ Vegetation in channels does not obstruct flow	
	_ Location shown on site map	Areal extent _____
	Remarks _____	
D. Cover Penetrations _ Applicable <input checked="" type="checkbox"/> N/A		
1.	Gas Vents	_ Active _ Passive
	_ Properly secured/locked	_ Functioning _ Routinely sampled _ Good condition
	_ Evidence of leakage at penetration	_ Needs Maintenance
	_ N/A	
	Remarks _____	
2.	Gas Monitoring Probes	
	_ Properly secured/locked	_ Functioning _ Routinely sampled _ Good condition
	_ Evidence of leakage at penetration	_ Needs Maintenance _ N/A
	Remarks _____	
3.	Monitoring Wells (within surface area of landfill)	
	_ Properly secured/locked	_ Functioning _ Routinely sampled _ Good condition
	_ Evidence of leakage at penetration	_ Needs Maintenance _ N/A
	Remarks _____	

1.	Siltation	Areal extent _____	Depth _____	_N/A
_Siltation not evident				
Remarks _____				
2.	Erosion	Areal extent _____	Depth _____	
_Erosion not evident				
Remarks _____				
3.	Outlet Works	_Functioning	_N/A	
Remarks _____				
4.	Dam	_Functioning	_N/A	
Remarks _____				
H. Retaining Walls		_Applicable	<input checked="" type="checkbox"/> N/A	
1.	Deformations	_Location shown on site map	_Deformation not evident	
Horizontal displacement _____		Vertical displacement _____		
Rotational displacement _____				
Remarks _____				
2.	Degradation	_Location shown on site map	_Degradation not evident	
Remarks _____				
I. Perimeter Ditches/Off-Site Discharge		_Applicable	<input checked="" type="checkbox"/> N/A	
1.	Siltation	_Location shown on site map	_Siltation not evident	
Areal extent _____		Depth _____		
Remarks _____				
2.	Vegetative Growth	_Location shown on site map	_N/A	
_Vegetation does not impede flow				
Areal extent _____		Type _____		
Remarks _____				

3. Erosion	_ Location shown on site map	_ Erosion not evident
Areal extent _____ Depth _____		
Remarks _____ _____		
4. Discharge Structure	_ Functioning	_ N/A
Remarks _____ _____		
VIII. VERTICAL BARRIER WALLS _ Applicable <input checked="" type="checkbox"/> N/A		
1. Settlement	_ Location shown on site map	_ Settlement not evident
Areal extent _____ Depth _____		
Remarks _____ _____		
2. Performance Monitoring	Type of monitoring _____	
_ Performance not monitored		
Frequency _____		_ Evidence of breaching
Head differential _____		
Remarks _____ _____		
IX. GROUNDWATER/SURFACE WATER REMEDIES _ Applicable <input checked="" type="checkbox"/> N/A		
A. Groundwater Extraction Wells, Pumps, and Pipelines		_ Applicable _ N/A
1. Pumps, Wellhead Plumbing, and Electrical		
_ Good condition _ All required wells properly operating _ Needs Maintenance _ N/A		
Remarks _____ _____		
2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances		
_ Good condition _ Needs Maintenance		
Remarks _____ _____		
3. Spare Parts and Equipment		
_ Readily available _ Good condition _ Requires upgrade _ Needs to be provided		
Remarks _____ _____		

B. Surface Water Collection Structures, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Collection Structures, Pumps, and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____
3.	Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks _____ _____
C. Treatment System <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	Treatment Train (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent) _____ <input type="checkbox"/> Others _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually _____ <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ _____
2.	Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____

3.	Tanks, Vaults, Storage Vessels	_ N/A	_ Good condition	_ Proper secondary containment	_ Needs Maintenance
Remarks _____					
4.	Discharge Structure and Appurtenances	_ N/A	_ Good condition	_ Needs Maintenance	
Remarks _____					
5.	Treatment Building(s)	<input checked="" type="checkbox"/> N/A	_ Good condition (esp. roof and doorways)	_ Needs repair	
_ Chemicals and equipment properly stored					
Remarks _____					
6.	Monitoring Wells (pump and treatment remedy)	_ Properly secured/locked	_ Functioning	_ Routinely sampled	_ Good condition
_ All required wells located		_ Needs Maintenance	<input checked="" type="checkbox"/> N/A		
Remarks _____					
D. Monitoring Data					
1.	Monitoring Data	<input checked="" type="checkbox"/> Is routinely submitted on time		<input checked="" type="checkbox"/> Is of acceptable quality	
2.	Monitoring data suggests:				
_ Groundwater plume is effectively contained		_ Contaminant concentrations are declining			
D. Monitored Natural Attenuation		_ Applicable	<input checked="" type="checkbox"/>		
NA		_ N/A			

1.	Monitoring Wells (natural attenuation remedy)
<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning <input type="checkbox"/> Routinely <input type="checkbox"/> Good condition
<input type="checkbox"/> All required wells located Maintenance	<input type="checkbox"/> Needs <input type="checkbox"/> N/A
Remarks _____ _____	
X. OTHER REMEDIES	
If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.	
XI. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	
Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). _____ _____ _____ _____ _____ _____ _____	
B. Adequacy of O&M	
Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>Four monitoring wells sampled annually for the first five years, then every five years afterward for 25 years (until 2025). Results from the fourth five year review indicate no ground water contamination from the Site.</u>	

C.	Early Indicators of Potential Remedy Problems
<p>Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.</p> <p><u>There were no indicators noted during this five year review that would impact the effectiveness of the remedy.</u></p>	
D.	Opportunities for Optimization
<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.</p> <p><u>This five year review does not identify a need for optimization. The remedy is functioning as designed.</u></p>	

Appendix F– Site Photos



Photo # 1: Monitor Well CWMW-8. (Looking north). Photo by S. Rivera.



Photo # 2: Monitor Well CWMW-7. (Looking north). Photo by S. Rivera.



Photo # 3: Monitor well CWMW-10 (looking north). Photo by S. Rivera



Photo#4: Monitor well CWMW-9 (Looking west). Photo by S. Rivera.



Photo # 5: Trees planted on north side of Site (looking west). Photo by S. Rivera.



Photo # 6: Drums with waste oil (looking west). Photo by J. Brooks.



Photo # 7: Sign marking location of eastern boundary of repository cell (looking west). Photo by J. Brooks.